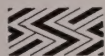


Wall Board Comes of Age

By Gerald K. Geerlings

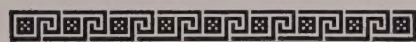
Illustrations by the author

JUST about the only unfortunate aspect of wall board is that it served its apprenticeship in basement and attic. Like a Hollywood actor for long cast in an apron-over-all rôle, it is difficult to win recognition in evening dress. So many attics and basements have been recovered by use of wall board that it is natural the manufacturers have published photographs showing the achievements. And equally natural is it to understand that now the architect gives only occasional consideration to using these greatly improved products in the main rooms of the house. It is conceivable that if the Century of Progress had first introduced the modern wall boards, with the assurance that for a number of years they had been successfully tried out under varying conditions, architects would be more main-room-minded toward these products.



Unless you have recently examined the latest wall board products there are some pleasant surprises in store. From a few feet away it is now virtually impossible to distinguish which is genuine wood veneer and which is wall board imitation, or to tell marble and tile from the wall board substitutes. By photographic and other mysterious means only superlatively good eyes can distinguish between a material which a carpenter can erect in a sheet four by eight feet, and one which would otherwise have to be laboriously assembled with much cabinet fitting, or even one which a marble or tile-setter would ordinarily handle unit by unit.

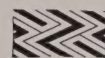
A wider use of wall board is almost certain in the main rooms of any structure. The labor troubles and costs of erection for small units, the



high cost of tile and marble for the limited budget common today, the desire for speed in erection, the advantages of eliminating moisture during construction, are all factors which will work to the advantage of the wall boards. More than that, the manufacturers have used the depression period to good purpose in perfecting materials and inventing new ones and new finishes. Not many years ago wall boards were chiefly useful as a base to be covered with plaster, paint and canvas—as they still may be. But now they are also decorative in their own right, and need nothing more than intelligent and careful erection to complete the room.

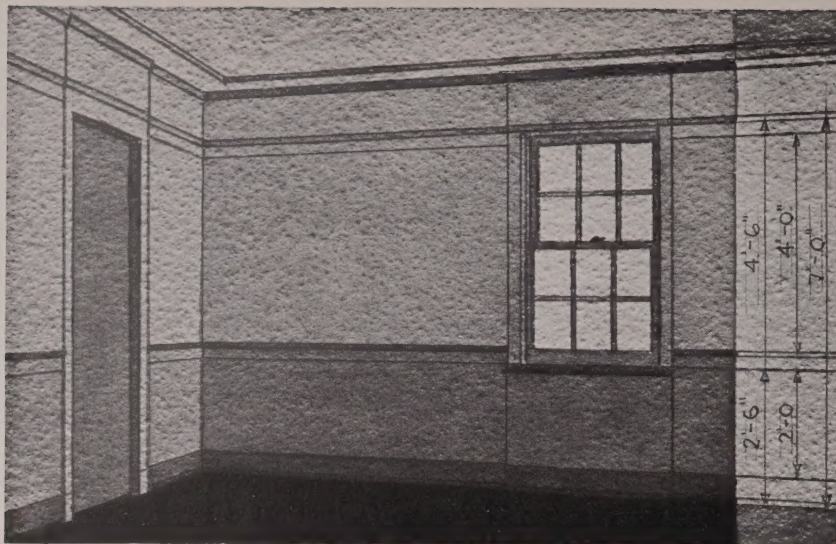
The term "wall board" as used here does not include only those substances akin to wide boards which could be affixed to a wall, but all materials which are flat, suitable for interior surfaces, regardless of their composition. Thus in this category should be the new steel panels with their plain, wood, tile, or marble finishes, the cork and linoleum products, and the synthetic "boards" such as Bakelite, Formica and Mica. Naturally included are all the plaster boards, fibre boards, asbestos and cement combinations. The architect may assume that there is nothing new in wall boards—but only until he has reviewed old ones and investigated new products should he proceed with new work. It may mean the difference between excessive estimates holding up a job on one hand, and its swift execution on the other. In looking at samples it is always wise to note the stock sizes (usually 32- and 48-inch widths) for the unit size may effect a great saving if used judiciously horizontally or vertically. The term

"wall board" cannot give any idea of the scope of textures and finishes, for these embrace almost the entire range of other building materials, nor the variety in thicknesses, sizes, and combinations in color and texture. For your own interest see a complete set of wall board samples in all materials.



Even as the compositor is setting the type of these words new products are being perfected, some of them to be on the market shortly. There will be new means of erection, new joint possibilities, additional finishes. The significance to the architect amounts to this: instead of conceiving a wall as merely being covered with an expanse of plaster to be decorated later, it becomes a surface to be designed and conceived in color and texture before the specifications can be written. As in all other elements of a building, the client's gain is the architect's loss in fee. Whereas a whole job could be plastered without thought of design or color, now both must be carefully considered and visualized with wall board. It puts another burden on the architect's superintendent, too, for the wall board on the job must be shown every respect or its surface (if it is to be the finished wall covering) will be unsightly. This is merely mentioned in passing, and only goes to prove that there can be no gain for the architect in enlarging his palette without a corresponding payment by him in designing effort and superintending time.

It seems not unlikely that the big market in the immediate future will be concentrated on small or inexpensive houses. Wall board will shorten the erection time, reduce the costs, and give the architect many more decorative possibilities



CEILING

W. B'D.

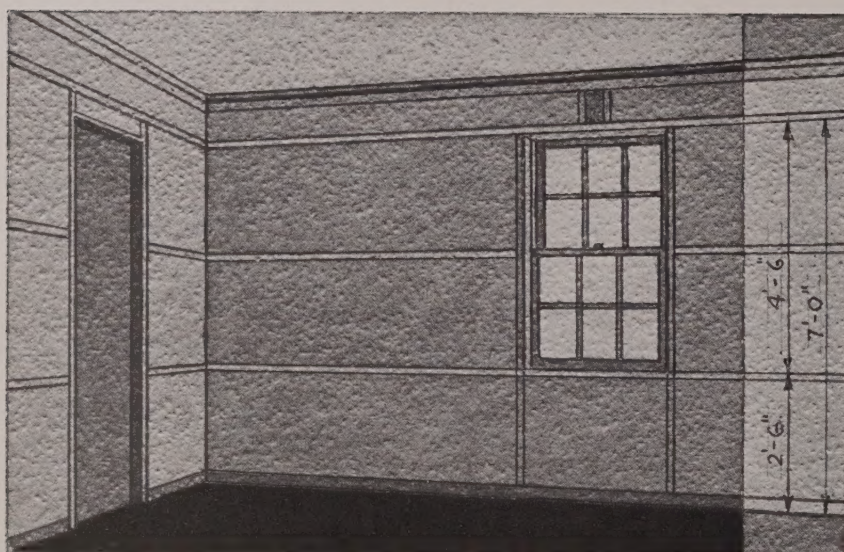
No. 1

This is one of the simplest usages of wall board, a 2' or half-width being used as a dado, with full 4' width above. A dado and head course brings the total height up to a 7' window-head. A wood cornice member and a metal nosing at the window-head are shown in the details, but these are optional. This drawing is more or less diagrammatic and can be elaborated at will

METAL
WIN-
DOW
HEAD

DADO

W. B'D.



CEILING

W. B'D.

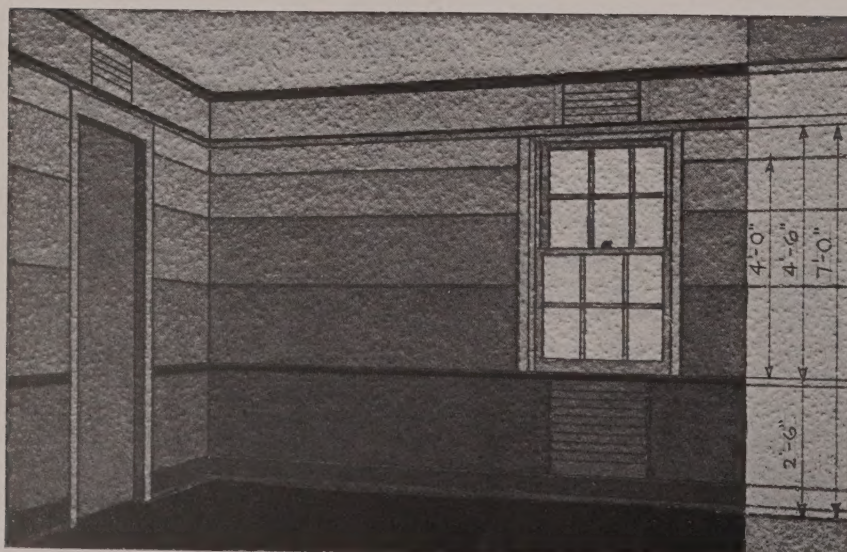
No. 2

This design assumes that a stock width of 32" for wall board is used, with joints covered by metal or very flat hardwood strips. The vertical members at the window jambs and their continuation to the base are conceived as being the same color as the wall board, although if of metal that would not be true. The design is in its simplest form and could well be improved by bands of color

METAL

JAMB

W.B.D.
METAL



CEILING

W. B'D.

No. 3

In this example stock wall board is scored by horizontal V-grooves. An effective treatment in color would be to paint increasingly darker tones from top to bottom, although on an inexpensive job this could be eliminated above the dado. Below the dado a darker color would be of advantage. In the detail the horizontal member above the window-heads is assumed to be of wood

WIN-
DOW
HEAD

JOINT

DADO

FLOOR

than he hitherto possessed on "cheap" work. Formerly he was limited in small house interiors to selecting colors from a paint chart, so far as decoration was concerned. Without adding to the expense he can now afford to vary almost every room in the house even when employing an inexpensive type of wall board, simply by the ingenious combinations and uses to which he puts it.

Granted that in every small house the architect cannot afford to draw complete elevations of every room, there should be some sort of standardization possible, so that there will be some profit. There are endless schemes possible, but as a suggestion there are nine versions of typical corners of a room, showing the treatment around window and door

should have a practical affinity for the room it enhances—the hall a finish which movers and constant travel will not ruin by a single scratch, bedrooms with washable surfaces, living and dining rooms which permit pictures to be hung readily.

The designer has only to study the wall board problem for one hour before he comes to the logical conclusion that it becomes a joint problem. He can read through all the literature of all the wall board products and be surprised that there is not more than passing attention paid to joints by the manufacturers. Some will give specifications on how to arrive at a flush joint by use of strips of material, followed by plastering and sandpapering. But on the whole there has in the past been

and the use of terrazzo rightly increased as never before. The same may be true when the problem of the wall board joint has been solved equally well. It is interesting to note that companies who have reported profits in various fields with products to sell, have usually found it profitable and felt it advisable to employ specialized talent outside their organization to re-design or re-style their merchandise. When the architect scans the combination of moldings and decorative "tile" inserts which serve as adjuncts to wall board, he cannot help but wonder if perhaps a salesman or shop superintendent was not the guiding spirit. Some catalogues have profiles of moldings which no architect could use if he tried, and herringbone patterns so large as to be ridiculous.

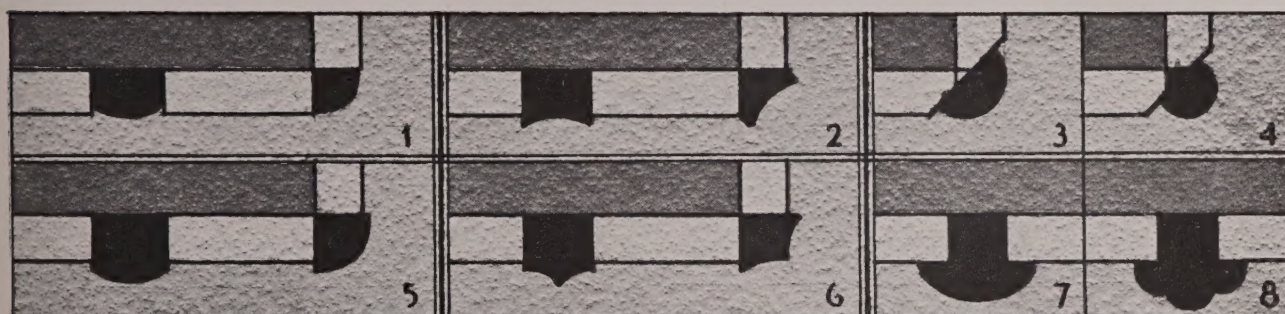


Fig. A.—A possible solution of the joint problem is to make a feature of it by using metal (1 through 6) or wood (7 and 8) strips. If of wood they would all be rabbetted, as 7 and 8, and should be pre-painted a contrasting color before erection. Differences in thickness of wall board make flush joints almost impractical, and this offers a means that any workman can manage—nailing or screwing a strip in place after the wall board is up, then adding another board unit. Here the wall board is shown white, the strips black

when the two do not align, on pages 182, 184, and 186. These nine designs are not held up as the ultimate in beauty, but point one means the architect could employ in his practice of standardizing certain wall treatments, one on a sheet with full details and specification notes. Such sheets could be printed as blue prints for the estimators, or as black-line prints for the client to show him what was contemplated. Thus there would be a saving in drafting costs for every house, so that plans should not cost more than if the walls had been plastered. It goes without mention that on every job there will be conditions where a "typical" corner will not apply, but either a small freehand addenda to the standard sheet may suffice, or a few troubled moments on the job. In this connection the architect does well to consider that the wall board

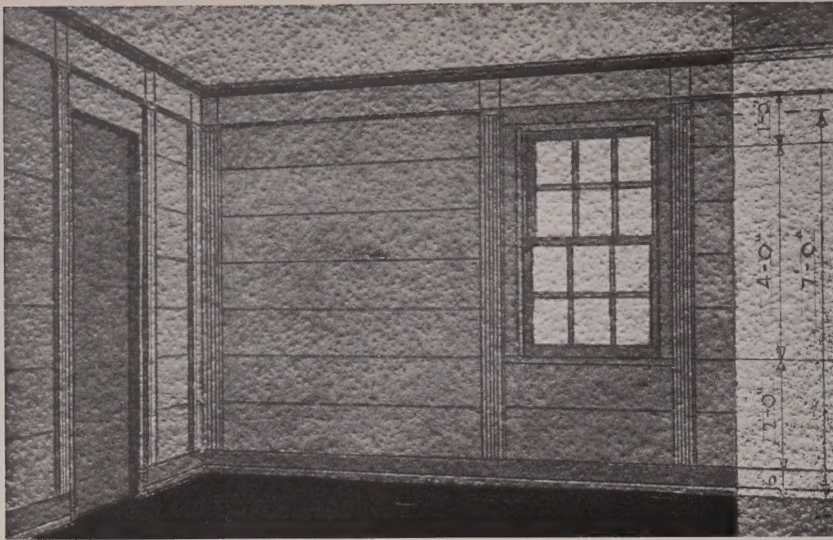
a tendency for the manufacturer to feel that he was interested only in manufacturing units of wall board, without giving much thought to how the average mechanic on the job was going to have a fool-proof means of converting material costing six cents a foot into an effect seemingly worth five times that. Lately there has been some activity on the part of the manufacturers to bevel edges so that joints may be made a feature, and at least to try to discover means other than clumsy battens to cover joints. Several companies now make various types of metal "trim" (advisedly very narrow!), and one wall board concern is about to manufacture its own metal strips.

Not so many years ago the future use of terrazzo was dubious because when used in large unbroken areas it was prone to crack. Then came the introduction of the brass strip—

The cost of making these forms and having but little sale for them must be much more expensive than employing one of the thousands of architects who have good taste and not much work.



At the present time there is on the market a variety of metal "trim" products which are far too expensive and complicated. For one thing, in a small room the cost of the metal may be as much as that of the wall board, in both cases taking the expense of installation into account. That directly affects the wall board manufacturer. In the installation of some of the metal trim it almost requires the precision of a watch maker on a large scale, and for the average mechanic to have horizontal joints meet within an accuracy of one-



CEILING

W. B'D.

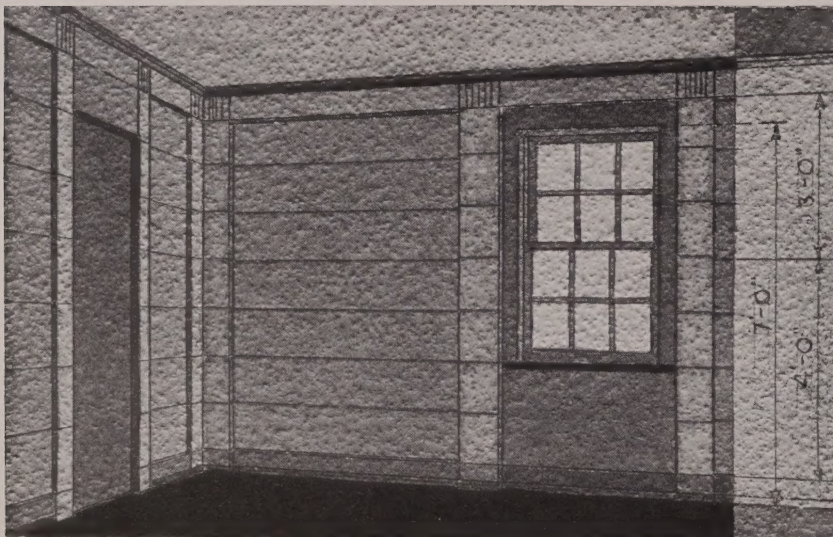
No. 4

Here stock 4'-width wall board is used with horizontal V-grooves. A cornice member is out on the same face as reeded or fluted pilasters. To heighten the contrast between wall surface and pilasters the latter might well be a lighter tone or contrasting color. Pilaster capitals could be built up of stock wood moldings and cautiously picked out in color

PIL.
CAP.

JOINT

BASE



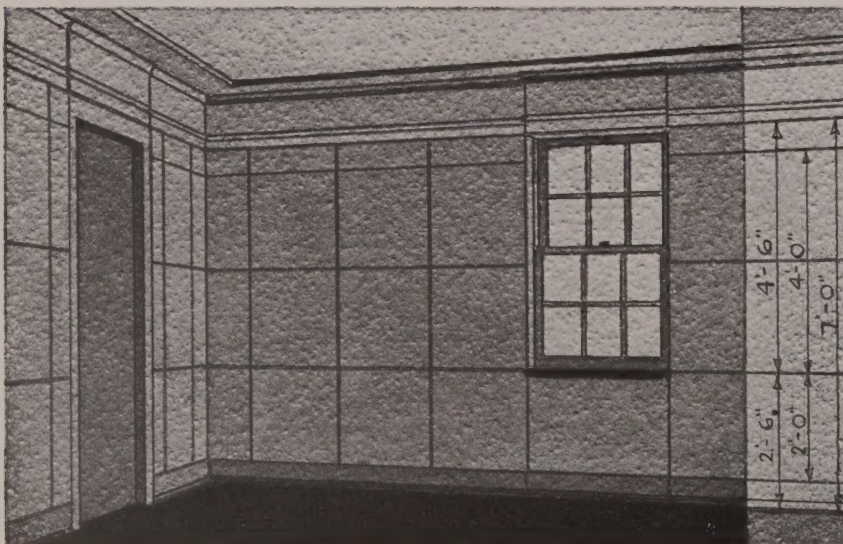
CEILING

W. B'D.

No. 5

Another version of the use of horizontal V-grooves, much like the preceding one, with the fluted pilasters replaced by wider pilasters having V-grooves after the manner of quoins. In both these examples pilasters have been kept slightly away from the window jambs so that hangings would not obscure them. The pilasters might well have a different texture

STOP
PILASTER
WINDOW JAMB



CEILING

W. B'D.

No. 6

The use of square panels can be highly successful, but usually it requires that each wall be laid out or that a gifted workman do the erecting so that portions of squares at top, corners, or jambs will look pleasing. Within any limited area there will be a number of almost equally good arrangements. It is consoling to remember that hangings at windows will hide some irregularities

WIN-
DOW
HEAD

JAMB

STOP
W. B'D.

sixteenth of an inch around an entire room, is expecting far too much. That too affects the sale of wall board.

Until the wall board manufacturers realize the stake they have in solving the joint problem the architect will have to fend for himself. The suggestions in Fig. A (wall board shown white, wood or metal strips black) may help to provoke better solutions. They have this advantage—when one unit of wall board is in place, it can be toenailed through the edges in certain thick types, then a wood or metal strip can be nailed abutting the edge in a perfectly simple way. If of wood the strip should be pre-painted, preferably with holes drilled for nails. The architect can design his own profiles, remembering they should be easy to miter. In Figure A all strips are shown as though they were of metal except for 7 and 8—if any of the other profiles should be executed in wood they may sometimes profit by having a rabbet too.

Before the architect designs his own strips or moldings another possibility (if the ones on the market

wall board should be used as wall board. Yet, glancing through most photographs of executed work shows that the surface was treated as though it were anything but a material which comes in sheets usually at least 4 by 8 feet (this is not directed at the intelligent usage of small units with bevelled edges). Fortunately for the future of wall board the modern movement in architecture has proved that large areas of surface can be effectively used when set off with contrasting lines, either horizontal or vertical, so it should not be groping in the dark for the architect to find a means of using wall board in harmony with its character. Fortunately too there are on the market various tools which will easily cut grooves and bevels on the job. Wall board has too many inherent potentialities to have them squandered by the wide, clumsy battens associated with attics and basements. The latter treatment bespeaks the product of the "handy man around the house" and gives the impression of a temporary partition, rather than anything worthy of an architect.

Referring to Figure B, the centre dado is shown with a thin piece of wall board overlaying a thicker variety. Here is a chance to vary the texture and the color, and thus give a more economical, suitable-to-the-material effect than would a molding. The dado at the right in this same figure is shown with side surfaces planed at an angle. A right-angle would leave edges more apt to dent and crumble than those resulting from this slope.

Figure C shows some screw heads which would serve to hold the wall board in place more securely than nails, yet would be decorative besides. The ornamental, and at the same time practical, effect could be heightened by the use of washers with stamped incisions. Even plain chromium-finished washers would be an asset in some designs. Instead of decorative screw heads it is conceivable that certain nails, having rounded heads instead of flat ones, would prove decorative. Because wall board has a tendency to pull away when only nails are used, it will be necessary to drive alternate nails at opposing angles, *i.e.*, one in-

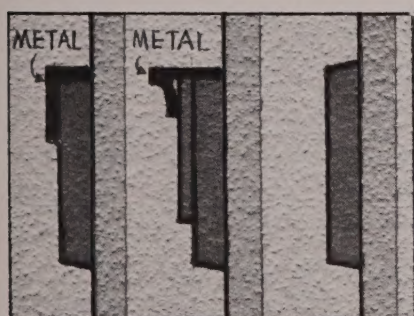


Fig. B.—A dado cap of wall board is apt to receive hard usage which will dent it, so it is suggested that it be capped with an ordinary angle with chromium finish, or some other store-front stock molding. The middle drawing shows two thicknesses, with varying textures and thickness for variety. The dado at the right with its sloping side faces is preferable to a member with right-angle sides because the edges formed are not as sharp and consequently not as apt to dent or crumble

are too complicated and expensive) is to go through the catalogues of shop window fronts on the hunt for moldings and small angles which are stock patterns and relatively inexpensive. Figure B shows how a stock show-window angle and nosing can be used as a dado cap. Most metal products of this sort are easily drilled on the job.

It seems redundant to state that



There are several practical considerations which should be taken into account from a design standpoint. As has often occurred in the past, when cognizance is given the physical properties and require-

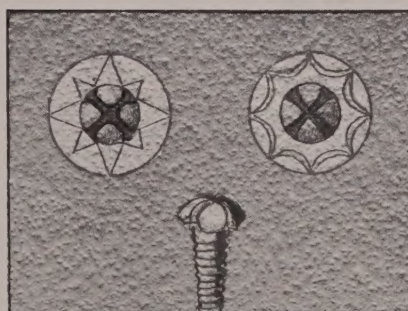


Fig. C.—While ornamental screw heads and washers are not on the market, it is worth conjuring with the idea. Screws would hold the board in place better than nails, and could be made to serve a decorative as well as a useful purpose. If the washers were scored, all the better, but even plain ones would look well under certain circumstances

ments of a material it leads to a distinctive and often a more distinguished result than trying to imitate the treatment of another product.

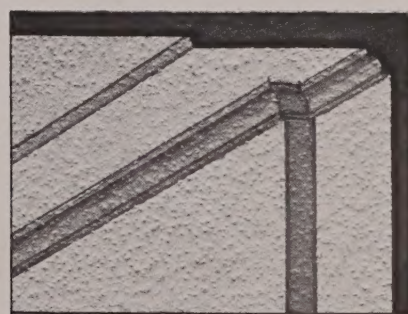
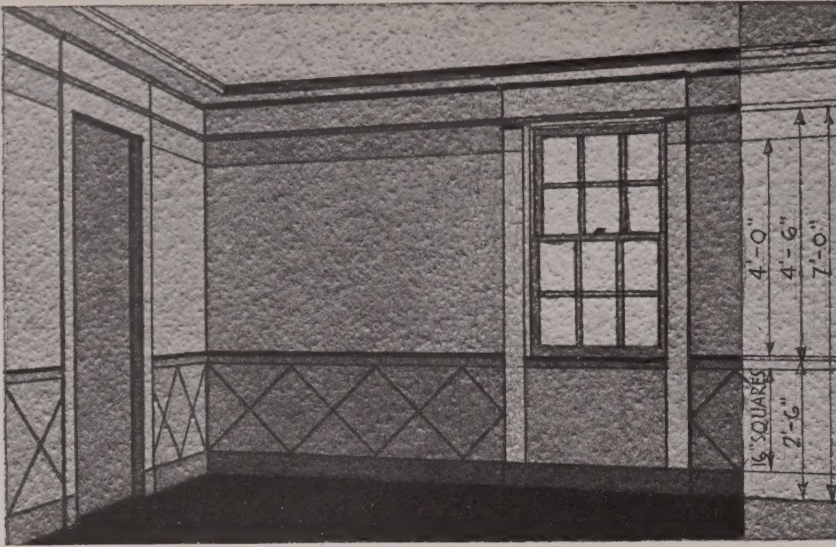


Fig. D.—Where panels of wall board overlap, such as above windows or doors, it is not unlikely that the ceiling divisions would not coincide. To obviate this it will be advisable to use a horizontal ceiling fascia to receive such offsets

clining to the right, the next to the left. In Figure G, part 1 illustrates this.

Modern architecture and exhibitions have pointed the way in using stripes and bands of color instead of moldings. The nine drawings on pages 182, 184 and 186 give some idea of this. At a larger scale Figure E proposes that the soffits of projecting facias be colored in contrast to the front face. One of the best examples of how decorative can be this scheme of putting plain offsets to work is the auditorium of Paul Cret's Detroit Institute of Arts. Re-



CEILING

W.B.D.

No. 7

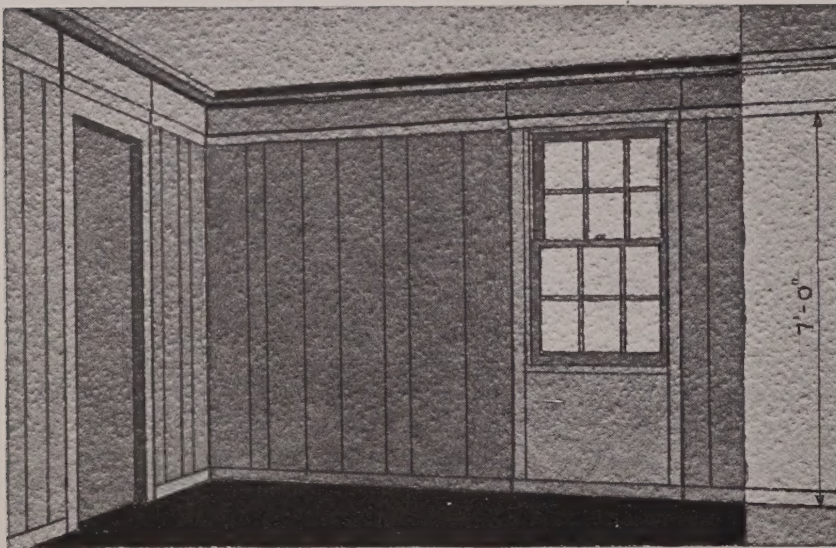
Instead of using square wall board panels upright fashion, sometimes they can effectively be tilted at 45 degrees for a dado. In a low room with much unbroken wall space this treatment could be run to the ceiling, but wherever there are openings there will be complications. Note the suggested ceiling soffit and the metal angle on the dado cap. The pilaster cap is stock wood

PIL. CAP.

METAL L.

DADO

W.B.D.



CEILING

W.B.D.

No. 8

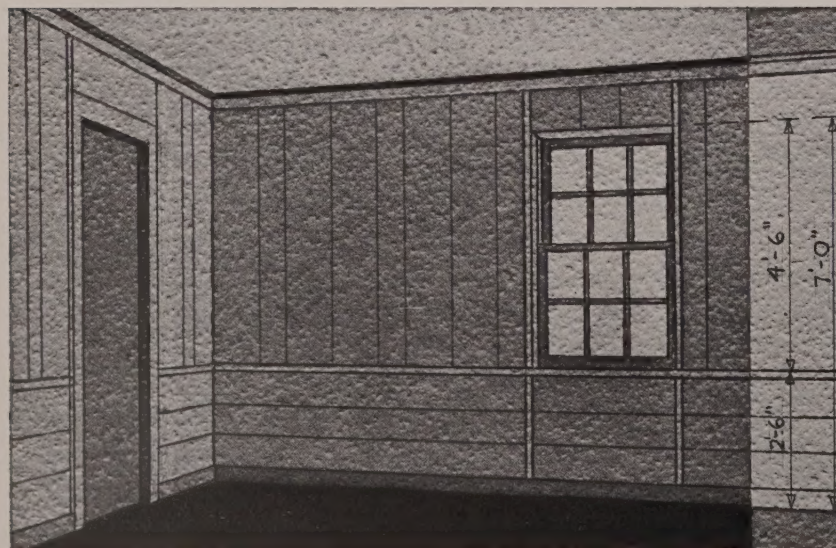
There is nothing startlingly original about the use of vertical sheathing in the old Colonial tradition, but this design is included as a reminder that wall board comes in random widths just for this purpose. To attain the effect of greater height omit the frieze members. The cornice detail is of triple thickness (two lower ones nailed together and planed), and the metal rod or rope

WIN-DOW HEAD

JAMB

STOP

W.B.D.



CEILING

W.B.D.

No. 9

Just for the sake of variety sometimes there may be occasion where it will look well to have vertical V-grooves above a dado and horizontal ones below. Here the vertical ones are shown with rhythmic spacing: two wide, then one narrow. The dado and trim are narrow metal strips, while the base is coved. A variation might be to use different profiles in upper and lower grooves

DADO

METAL

JOINT

BASE

ferring again to the humble suggestion of Figure E, the top molding of a simple pilaster capital, and the soffit of the offset below, can be picked out in a contrasting color from the surrounding surfaces. Wherever possible it will be easier to paint contrasting bands and moldings before erection than afterwards, as can be done where they are independent members. It requires only a little experimentation to understand why the ancients used this treatment of contrasting lines of color, and to appreciate their effectiveness in lieu of the more general

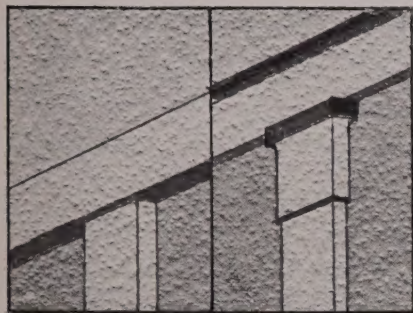


Fig. E.—To the left in this figure is a vertical member abutting a horizontal one slightly set back instead of being exactly flush. It is usually difficult on the job to get such members to meet on exactly the same face, and therefore it is better to anticipate irregularities by designing an offset, even though it be only $\frac{1}{16}$ th or $\frac{1}{8}$ th inch. The right half shows a pilaster capital, with its cap molding a contrasting color, as well as all horizontal offsets

practice of using moldings which are the same color as everything else. Often we forget that Greek moldings were originally highly colored, so accustomed have we become to seeing them represented as black lines on white paper.

In the nine drawings of a corner of a room the panels under the windows are shown solid, but actually they would often contain recessed radiators, grilles, and the like. In any case it would not be amiss to have this wall board unit overlap the flanking ones and thus take care of the joint which is likely to occur somewhere on that wall.

In the nine drawings of a corner of a room the stool was purposely not lined up with the dado cap in all cases. In a long room this might be an advantage in design. Sometimes the reverse might be true, but in any case the hangings are almost certain to reach down below the stool and so help to still any qualms of conscience if economy in wall board height has

prevented stool and dado from aligning.

When pilasters are used flanking a window jamb they often are placed immediately adjoining the stop. This is as it should be if only thin curtains are to be used, and in most cases the proportion of the ensemble will be most pleasing. If, however, there are to be heavy hangings then the pilasters are apt to be hidden behind them, and they can advisedly be moved slightly to the sides of the jamb as in Numbers 4 and 5 of the room corners, page 184. Apropos of pilasters, Figure F shows profiles of several commonly used in wall-board construction. The point to bear in mind is that any sharp edge may and will become dented much more easily than a rounded surface, hence the reeded silhouette at the left in this figure will be preferable. Another salient fact to remember is that pilasters, to be reasonable in

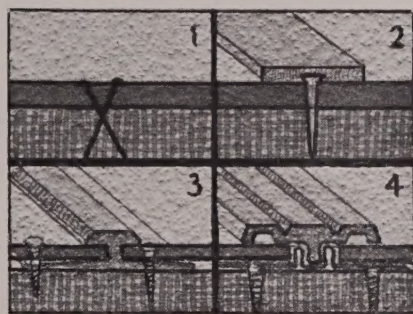


Fig. G.—(1) When nailing wall board it is advisable to drive one nail inclined to the right and the next to the left, so that the board will not buckle out and pull the nails with it, as it is prone to do. If nail heads be rounded they can serve decoratively

(2) Next up the scale for holding wall board in place is a metal strip having a groove on its under side, with nails slid and crimped in place, spaced every few inches. It is thin, flat, and excellent in appearance, as well as simple to apply

(3) Another metal strip on the market is typified in principle by this one, although there are a number for internal and external corners, etc. After a section of the wall board is in place the strip is shoved up, the screws having been installed previously in grooves. It requires careful workmanship, but does result in an excellent job when well done

(4) This strip requires most careful marking on the wall before the under portion (shown by a single line just above the cross-hatched wall section) is screwed in place. This is so placed that when the wall board is temporarily held in position a top portion of the strip will snap into a middle open rib and so secure the two board units. Naturally this type is more expensive than the others and requires more time to install

expense, should not be carved, but fluting or reeding should extend from top to bottom. This is widely done even in wood, and there is no reason to dread disapproval from the gods of the Greeks and Romans because they used only carved flutes on stone columns.

The scope of this article has embraced mainly the elements affecting the designer rather than the specification writer, since the latter will be treated next month by W. F. Bartels in his monthly article on "Better Practice." There are a few constructional matters which seem

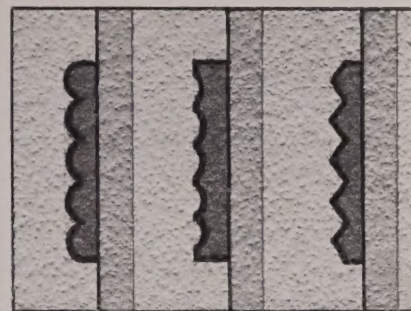


Fig. F.—Wall board pilasters can be reeded or fluted but because the material is softer than wood any fine arris is apt to be easily dented. In this drawing the profile at the left will be most serviceable. It must be remembered that wall board material should not be carved, but profiles run through from end to end, as is the current vogue for pilasters of all kinds

necessary to mention here in passing. One of them is that the designer should know what widths of wall board will best suit his purpose (usually 32 or 48 inches is stock), as well as the length, and then design accordingly. If a 48-inch width can be cut in two and used as a dado, all well and good, rather than a width which will waste. In using sheets it is well to remember that most rooms are interrupted at least every eight feet in length, so that using wall board horizontally will be better than running them vertically in the old basement-attic manner.

One last detail—the use of stencils should not be overlooked as a decorative possibility. But these should be a matter of careful design, for, left to his own devices, a painter or owner may frustrate an otherwise good design with meaningless, stultifying ornament. Better no stenciling than ill-conceived designs. Careful supervision on the job both as to color and application is absolutely necessary.

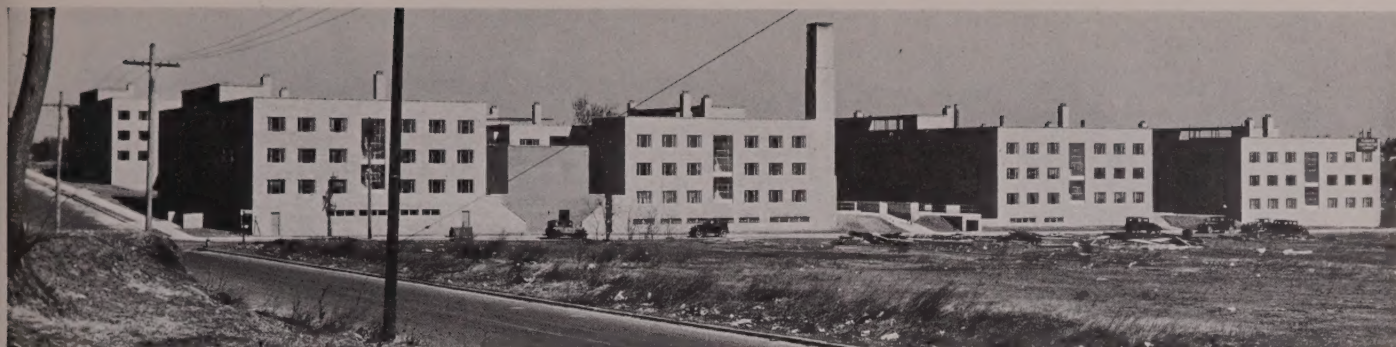


MEMORIAL TO THOMAS HASTINGS IN ONE OF HIS MONUMENTS,
THE NEW YORK PUBLIC LIBRARY

Frederick MacMonnies, Sculptor
Architectural setting by Theodore E. Blake

« ARCHITECTURE »

APRIL, 1935



THE CARL MACKLEY HOUSES NEAR JUNIATA DESIGNED BY KASTNER & STONOROV AND W. POPE BARNEY

Photographs by Richard Averill Smith

A Critique of the Hosiery Workers' Housing Development in Philadelphia

By Albert Mayer

THE low-rental housing development sponsored by the American Federation of Hosiery Workers, designed by Kastner & Stonorov and W. Pope Barney is practically completed. It is the first sizable housing project to be finished under the Housing Division of PWA, and one of the very few labor housing projects ever built in this country. Though the PWA has now discarded its loans to limited dividend corporations, in favor of direct construction by the Federal Government, its early loans were made chiefly to these corporations. The American Federation of Hosiery Workers were the only labor group to build housing under the PWA—an amazing commentary on the indifference of labor generally to the question of low-cost housing. This is especially striking when it is remembered that a very large portion of the European housing since the war was carried out by labor groups, and that labor pressure was an important factor in all the housing activity.

Before considering the project itself, a word must be said as to the thorough preparatory steps taken by the union and the architects. As the project was financed with funds controlled by the union, and as it was planned for occupancy largely by individual union members, it was possible to gather all relevant facts as to the characteristics and desires of the groups of people, among whom the eventual tenants

would be found. The findings were published in a pamphlet entitled "Housing of Families of the American Federation of Full-Fashioned Hosiery Workers," by W. W. Jeanes and Kastner & Stonorov.*

Without here subjecting the pamphlet to a critical analysis, I recommend it for study, because it begins to get close to the needs and habits and aspirations of the people themselves, as contrasted with the usual preliminary studies which concern themselves mainly with more or less abstract social and economic data. To design livable structures, you must design sympathetically, and to design sympathetically, you must understand intimately the people involved. I don't mean that either the study or the design succeeds completely, but the approach is there, and the design shows it.

THE CHARACTERISTICS OF THE PROJECT

Location and Area: Philadelphia, in the northeast. A block measuring $4\frac{1}{2}$ acres, bounded by Cayuga Street, Castor Avenue, Bristol Street and M Street.

Size of Project: Number of apartments, 284; total estimated cost \$1,165,000. (Of this, \$1,039,000 was a loan by PWA.) Land cost, approximately \$92,000—47 cents per sq. ft. Coverage, just under 30 per cent; height of buildings, 3

* In 1933 by the Carola Woerishoffer Graduate Department of Social Economy and Social Research, Bryn Mawr College.

stories and basement. Garages are provided for some 20 per cent of the apartments.

Total Number of Rooms: 1085 (of these, 42 are half-rooms accounted for by kitchenettes in what are called 2½-room apartments).

Apartment Sizes: 74 apartments of 5 rooms.

126 apartments of 4 rooms.

84 apartments of 2½ rooms (living-room, bedroom, kitchenette and bath).

Average of rooms per apartment, 3.82.

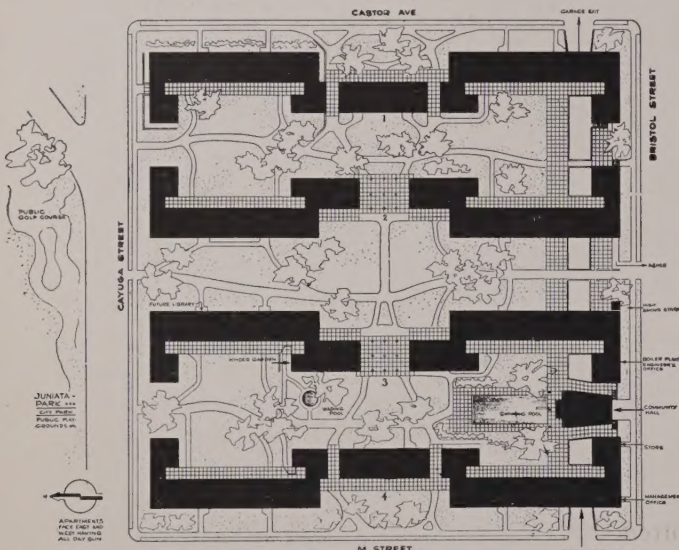
Rent per Room per Month: \$9.50 (as projected). This includes heat, hot water, electric current. Deducting the normal cost of electric current, this would mean about \$8.00 per room for rental as ordinarily understood. However, the PWA appears to be demanding an accounting set-up, vacancy reserve, etc., that may change the rent from \$9.50 to \$10.50.

near trolleys and other transportation means for the occasional trips to the centre of town for other than neighborhood shopping, and for amusement. It is in a district where many hosiery workers already live. A new grade school is three blocks away; a high school is within twenty minutes' walk; churches and parochial schools are nearby. It adjoins the Juniata Park and golf course.

There is one proviso about the appropriateness of location that is beyond the control of the building group. The inclusive \$9.50 rental was determined to be a rental that the workers in question could pay. If raising this to \$10.50, as proposed by PWA, puts it beyond the reach of the group for which it was built, then the location may not be so satisfactory and the development will largely have missed its point. PWA should make arrangements so that the original objectives may be accomplished.

There is a curious dualism in one's impression of the Carl Mackley project, and this dualism is confirmed on detailed inspection and analysis. In its broad features it is admirable, aesthetically and socially. In the detailed working out, there are many errors. Its conception is generous and bold, but I would say that in attempting to make the economies that our system of maldistribution of wealth makes necessary, the architects have in many cases selected the wrong ways to economy, and indeed, ways that in the long run are not economical.

The impression of the whole is one of openness, simplicity and clarity. That is especially refreshing in this country, where the customary principle of designing around courts, even large courts, gives one the equally customary feeling of confinement. The north and south orientation is adhered to, but the focusing influence of courts is retained, for offsets in the four building elements result in five very open courts, one of them the central court of the project. The small re-entrant courts at each end mar the feeling of openness, and are later seen to produce a defect in detailed layout. With this low-priced land, the device seems quite unnecessary. It is particularly pleasant to walk around the development: the long vistas into it are uninterrupted by cross walls, yet are saved from absence of interest and scale by the walls flanking them. The façades are of variegated buff-brown terracotta, glazed, built of units somewhat larger than brick. The relieving elements are large panels of glass in casements, with recurring



Plot plan of the four-and-one-half-acre block. All automobile traffic within these boundaries is limited to the garage street at the south end of the development

Other Features: A swimming-pool, auditorium, and kindergarten are provided. The buildings are uniformly two rooms deep, so that every apartment has cross-ventilation. Orientation is north and south, giving east and west sun.

Construction Cost per Room: Approximately \$850.

Land Cost per Room: \$85.

Average Net Room Sizes: Living-room, 170 sq. ft.; bedroom, 120 sq. ft.; kitchen, 74 sq. ft.

Construction: Fireproof, beam and slab in stone concrete.

The project is well located. It is quite near the large hosiery factories, where presumably most tenants will find work. It is sufficiently



Near the southwest corner, showing the garage entrance to the lower level, and the recreation roof shelter

balconies and bay windows, the blue and brown colors of doors and of exposed columns at entrances. The entrances at the center of M Street and of Castor Avenue, and the connecting ways are well handled. They are *in scale*, neither climbing into the pretentiousness of large ornamental entrances, nor diminishing into the tunnel-like entrances that go by the name of "simple modern."

The auditorium-community center and the swimming-pool in front of it have the prominent place architecturally and actually that one should expect from a project planned by people virtually for themselves—a consciously active industrial and political group. The focal nature of this auditorium should be further emphasized by architectural and decorative means.

Near the south end of M Street is the driveway to the underground garages. This conception is excellent: the garages are out of the way, and for all garages the street is crossed at but one point. However, one of the main advantages of the underground garages has not been utilized. One would have expected underground walkways to various points in the development, so as to avoid long exposed walks in inclement weather, but there are none.

Some of the roofs are used for laundries, but

the greater portion, thank heaven, is for the use of tenants. Just why the other low-rental housing projects I have seen do not make the roofs publicly available, is a mystery to me. It furnishes an excellent play space for children, in a place where their noise is not disturbing to any one. Adults enjoy the far-flung views which often they cannot get from their apartments.

So much for general æsthetic impressions, for community facilities and for site planning. There remain for consideration the layouts of apartments, and the characteristics of construction and materials.

As to plan. It must be said first that the Philadelphia building laws, which were drawn for the customary private row houses, impose almost impossible conditions for apartment-houses. One of the requirements is an open balcony on each floor, leading from the stair well to each pair of apartments. I am all for open balconies, but here they have no privacy, for as can be seen from the typical plan of 4- and 5-room apartments, you are not only smack up against your neighbor, but visitors to either apartment must pass through these balconies.

The apartment plans I consider bad, and I call attention to the following characteristics:

1. The rooms are definitely too small. I too,



Looking through the inner courts. The top windows light a laundry. In color the variegated buff-browns of the terra-cotta units contrast with the blue of entrance doors and the exposed columns

up to a year ago was planning in terms of such small rooms, but fortunately none of the plans eventuated.

2. In every case one enters from the out-doors directly into the living-room, without intermediate vestibule. This is a slight economy of space, but it is impossible to keep a room adequately warm under these conditions, and fuel costs will be high in the attempt to do so.

3. In *all* cases, bedrooms must be entered through the living-room. I don't agree with the extremists who feel that in low-cost housing you must never have this condition, because it prevents the use of the living-room for sleeping. But I am convinced that a good proportion of the apartments should have this privacy.

4. In the small 2½-room apartment, access to the bedroom is through the living-room, and access to the bath is through the bedroom. This arrangement is inconvenient no matter who occupies the apartment.

5. Access to the incinerators is from the ex-

terior balconies. This is somewhat inconvenient in cold weather, but more important, papers and debris will no doubt fly around.

Most of my notes on materials and structure are likewise not favorable. This certainly does not mean that there are not good features here, but simply that one assumes that except as noted, the essentials of good construction are met. Also I had in mind limiting myself to those items whose disposition typically is handled differently by different architects, so that, as a result of such critiques as this, architects may have the benefit of somebody else's experience of what might be called controversial items in a relatively new field. I quote a few notes:

1. I like the large casement windows, but there is a question whether these are heavy enough in construction to be weathertight in the absence of intermediate muntins. And definitely, casement windows should have bottom hoppers so as to avoid drafts.

A further question arises: as to large windows

for low-cost housing in this climate. There is extra fuel cost, and, beyond that, radiators are sometimes excessively large in proportion to room sizes.

2. The exterior window-sills are formed by terra-cotta placed on edge, so that the joints are exposed. This will sooner or later lead to leaks. It seems a false economy to have eliminated regular sills.

3. The bathrooms have exposed plumbing, both risers and stacks, and traps and branches on the ceiling. The effect is unpleasant, and there will probably be trouble from vermin. The tub is placed across the bathroom under the window, making the window difficult of access. As the tub is shorter than the room, there is a black marble shelf to take up the difference; this is ugly, and is an annoyance for maintenance.

4. The kitchens are attractive in appearance, especially the cupboard units finished in enamel. There is dining space in the kitchens. However, there is no washtub, so that it is difficult or impossible to wash the smaller garments which it is often desired to do within the apartment without troubling to walk up to the roof. The cost of combination sink and tub would have been little more than the sink and drainboard alone.

Summarizing, I would say that in general approach and in spirit this is a fine piece of work. One experiences a feeling of uplift when seeing it for the first time. But in the arrangement of space into apartments and rooms, and in the determination of where to economize in materials and arrangements, I must conclude that the development does not live up to its general promise.

I cannot refrain from quoting a sage and sad comment from the renting pamphlet, which epitomizes the dilemma of low rental housing: "A person with understanding will manage the community but he cannot allow non-payment of rent without endangering the success of the community standards. . . . Although a sympathetic outlook will be maintained toward this problem, the stability of this community cannot be disturbed by faults in other branches of society in the outside turbulent world." This is really the crux of the matter. By "faults in society in the turbulent world," is meant inadequacy of wages and in security of their con-



A special four-room apartment, of which there is a limited number. Note the large living-room and its bay window

A typical apartment of two and a half rooms, in both the small and the larger size. All are on the ground floor



The typical four-room apartment. All of these are located on the second and third floors

A typical five-room apartment. These are located on the first, second, and third floors



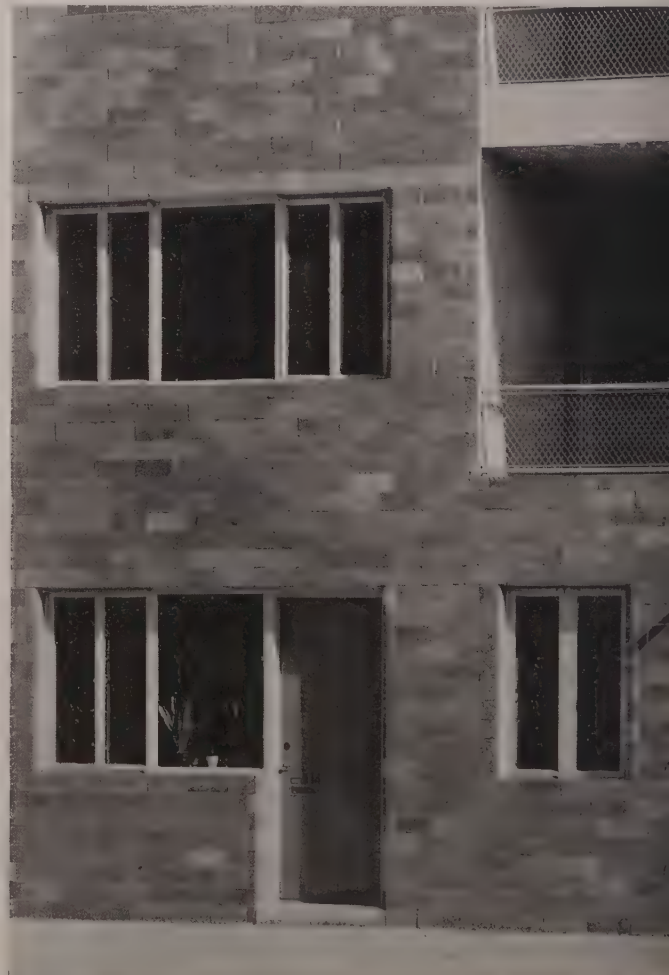
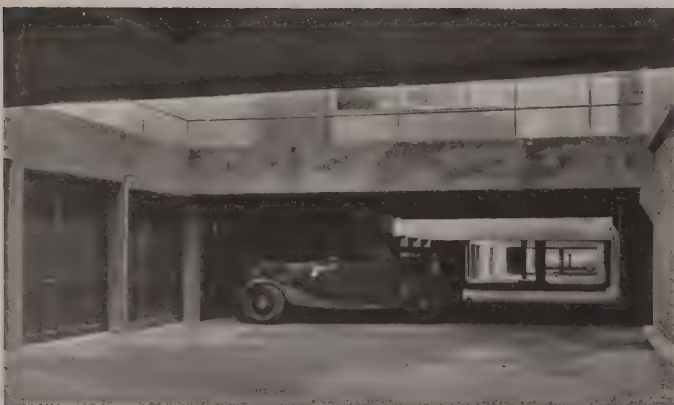
tinuance. Most of the mistakes made were made in order to pare down, pare down to reach a point where the people could afford the housing offered. In the particular case of Juniata, the rents that prospective tenants could afford were definitely known from surveys, so that the economic problem for the architects was rigidly fixed. Some of the mistakes are architectural and should have been avoided in any case, and some of them are false economies. But most of the faults were adopted as expedients to cut down first cost. These—or similar ones—are caused by the interest rate, by the amortization rate, and by the wages of

hosiery workers. This all-important situation is beyond the architect; it is for the government to remedy. Since the limited-dividend corporation days of Juniata, the PWA has gone some distance in this direction, in connection with rates on the housing projects which its own corporation is building. Further discussion of this would be beyond the purview of this critique. But it may be the architect is in the best position to demonstrate this inexorable interrelationship, and he should try to convince all and sundry to improve it, for only so can he be free to create homes in which he and his community can take pride.

Below, upper left illustration, a typical laundry, located on the roof. A bank of overhead doors opens the whole side of this room. In the far corner is an electrical dryer.

The lower left illustration shows the underground garage street. Garages are not individually partitioned—they are divided in threes, each space of course having its own overhead door.

A detail from the street side. Stairs in five towers open upon the recessed balconies, and from each of these one enters two apartments.



The Miami Airport

INTERNATIONAL AIR TERMINAL OF THE PAN AMERICAN AIRWAYS SYSTEM

DELANO & ALDRICH, ARCHITECTS

Photographs by Gerecke-Pan American Photo Service

An airplane view of the airport, showing the relation of the building to the land and to the hangars. Covered passageways lead directly from the building to the outgoing and incoming planes. Ramps on either side serve for moving planes to the hangars.



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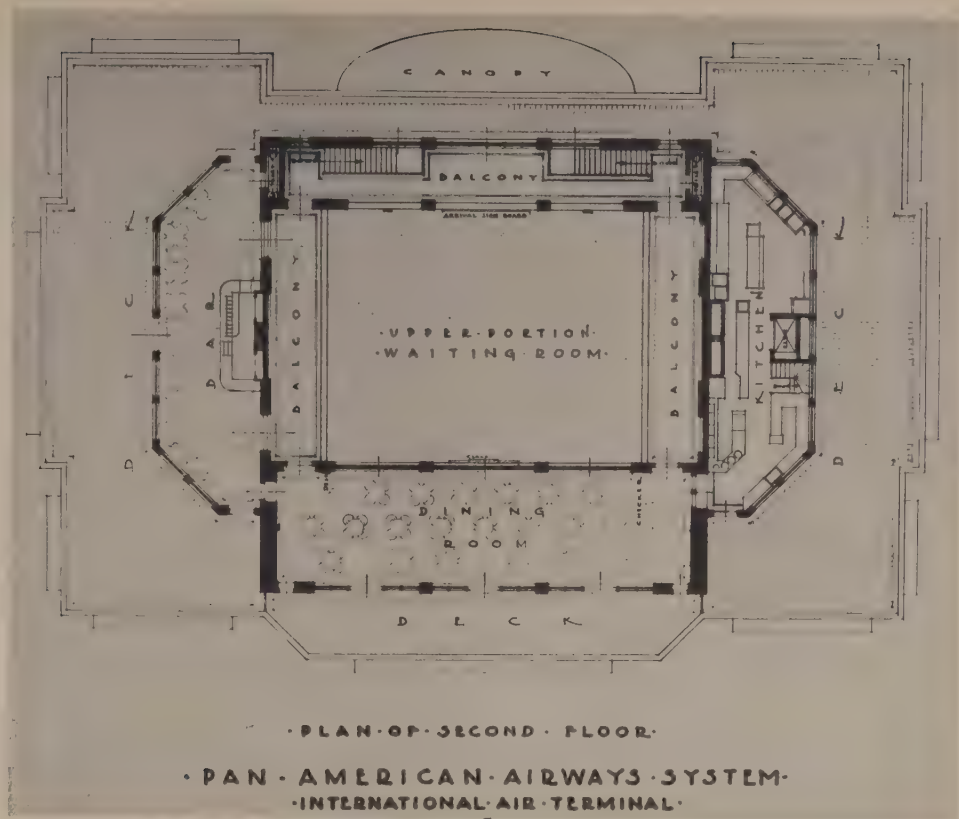


As the general plan at the left shows, the building has been constructed on made land projecting out into the water. All planes coming into this airport are aquaplanes

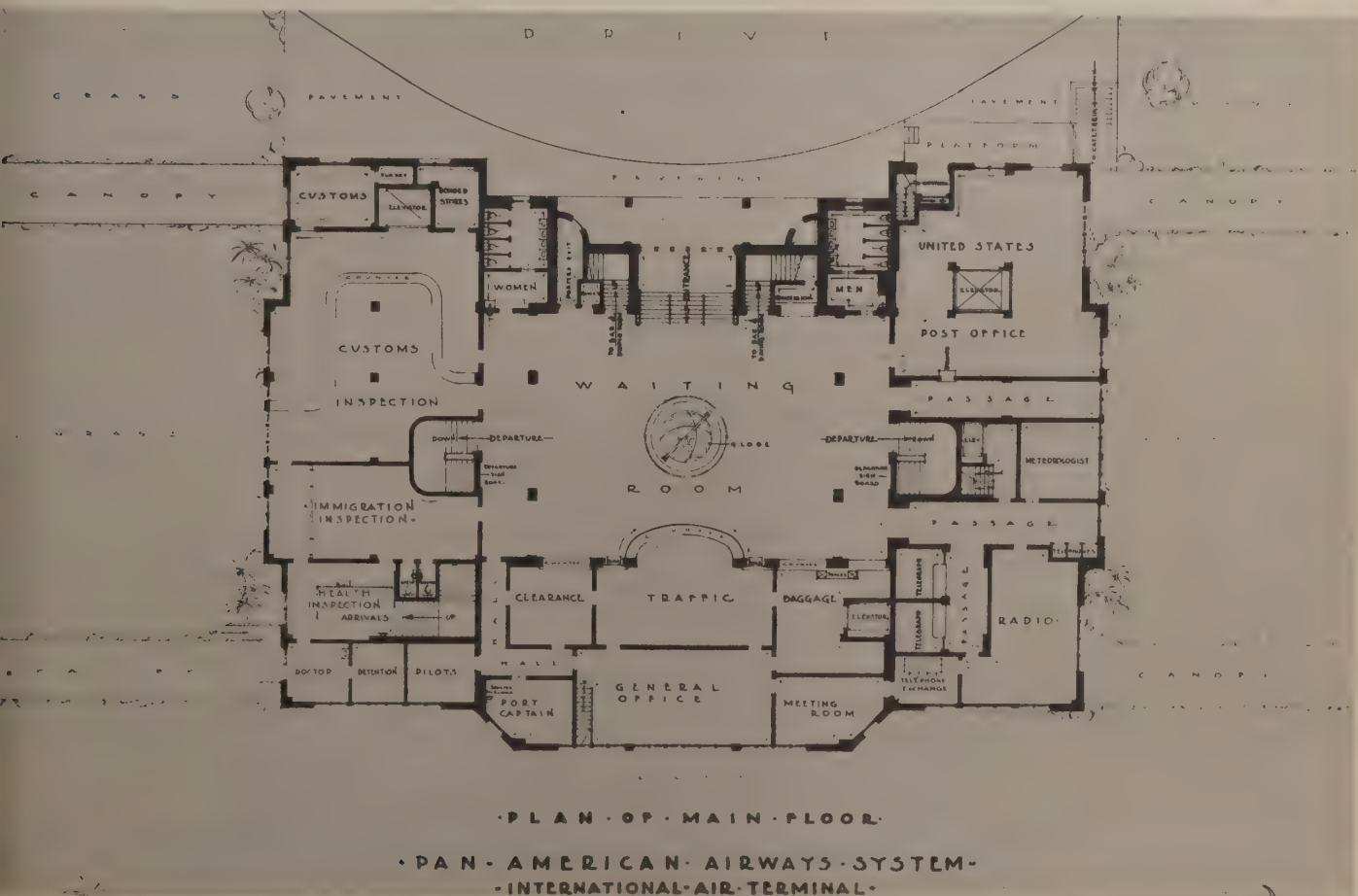
Entrance to and exit from all planes is from the basement level, with a wide corridor running through the building, to allow the service to be reversed if desired



The second floor is devoted to a dining-room and bar, the former adjoining a service kitchen. The dining-room overlooks the water, opening upon a deck upon which tables may also be spread



There is a surprisingly large number of accessories necessary in an airport, particularly on the coast or border. United States Customs, Immigration and Health offices, also a Post Office, will be seen on the main floor plan





The building is of steel-frame construction with tile walls covered with stucco. The floors are of concrete. The exterior stucco is a cream color, and all metal sash and doors are painted a dark blue. The topmost pent-house block of the composition houses a solar heating system which is supplemented by other heat when necessary

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End of a passageway leading to the planes. Note the sliding canopy roof extension

Main entrance doors are of bronze in a dull gold finish. The band of lettering and decoration at the top is cast concrete in cream against a gold background





The main waiting-room, around which, on the upper level, runs a balcony. Walls are of light gray; floor and ticket office counter are of brown tile. A painted frieze recalls the history of aviation, and the ceiling and ceiling beams are decorated with symbolic forms and signs of the zodiac in dark blue, light gray, and silver. The decorative painting is by Barnet Phillips. The circular revolving globe is of metal in a dark blue background. It is an accurate instrument, actually in use for determining movements of planes

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The dining-room on the second floor. Walls are light gray, and the ceiling decorated very simply in gray and blue. Here again, the floor is of brown tile. Although the airport is at some distance from the city of Miami, it is said that this dining-room is the popular gathering place of the community at the dinner hour

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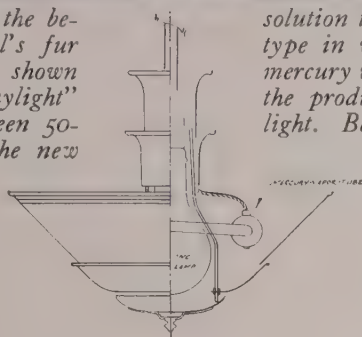
The deck roof outside of the dining-room where, in favorable weather, the tables are also spread. The color scheme of the building is in keeping with the brilliance of sky, sand, and sea in its cream color, dark blue, and gold

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Above are two pictures showing the before-and-after effects in Jaeckel's fur shop. At the left the room is shown lighted by five 300-watt blue "daylight" lamps surrounded each by thirteen 50-watt incandescent lamps. In the new

solution the fixtures are the combination type in which incandescent lamps and mercury vapor lamps are used together in the production of approximately white light. Below is the cross-section of the fixture



Daylight

to Order

By Eugene Clute

BETWEEN three and four times as much light for about 10 per cent more electric current, is the startling result of the recent installation of new lighting fixtures in Jaeckel's fur shop on Fifth Avenue, New York City. Furthermore, the new light so closely approximates daylight that the goods are seen practically as well as though they were shown under strong natural daylight, virtually in their true colors. This is an important consideration, of course, where wearing apparel is sold, especially if it is to be worn out-of-doors.

Several methods of lighting had been tried in this store in an effort to supplement the daylight from the windows and to provide a substitute for it when necessary. At the time the new installation was made this section of the store was lighted by five ceiling fixtures; each contained one 300-watt blue "daylight" lamp surrounded by thirteen inside-frosted 50-watt incandescent lamps. The resulting light was far from satisfactory in color, it was not sufficiently strong, and there was objectionable

glare from the exposed lamp bulbs. Each of these five fixtures consumed 950 watts of current—a total of 4750 watts—and the net result was an average illumination of only 3 foot-candles, which was wholly inadequate.

The new installation consists of five fixtures hung in place of the old ones. They consume a total of only 500 watts more current and the average illumination is 11 foot-candles, which permits customers to see the goods clearly. Also, there is no glare, but softly diffused, well distributed illumination, for the new lighting is indirect.

The secret lies in the fact that the new fixtures are of the combination type in which incandescent lamps and mercury vapor lamps are used together, the red and orange toned light of the former being supplemented by the blue, green, yellow, and violet of the latter, in the production of visually white light that very closely approximates the color of daylight. This is accomplished by addition instead of subtractal filtration, as is the case where the light from an incandescent filament is passed through

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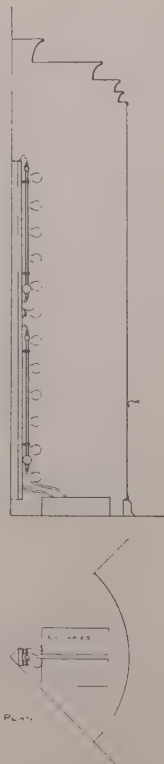
In the Women's Outdoor Wear Salon of John Wanamaker's Philadelphia Store, combination lighting is supplied from the pylons in the

four corners of the room. Below there is a plan and longitudinal section of a pylon. John T. Windrim, architect

greenish blue glass to hold back the excess of red and orange. The familiar "daylight" lamp depends upon subtraction; the blue glass of its bulb absorbs and wastes one-third of the light that emanates from the filament in the process of effecting a partial correction. This lost light is paid for in terms of watts on the electric bill.

The combination of incandescent and mercury vapor light is applicable in everyday practice to innumerable ordinary lighting problems. The combination fixtures can be hung like ordinary fixtures and connected to old wiring when it is of sufficient capacity. They operate on the usual 110-120 volt lighting current, through the medium of auxiliary apparatus which can be, and often is, incorporated in the fixture.

In the case of the fixture in Jaeckel's,



the auxiliary is enclosed in the metal canopy next to the ceiling. Such fixtures may be self-contained and may have almost any design character that the architect may desire to harmonize with the interior of the building. Those in Jaeckel's are of the metal-louver type and each contains one 750-watt incandescent lamp surrounded by a 300-watt circular mercury tube lamp. The arrangement is shown by a diagram herewith (page 203).

A very different application of the same principle of combining mercury vapor and incandescent lamps is found in the designing room of the Bigelow-Sanford Carpet Company, Inc., in New York City. This room, which is built on the roof of a comparatively low building, is at the bottom of a canyon formed by the tall buildings on either side, one

of which contains the offices and show-rooms of the firm. It never receives enough daylight, though it has a series of saw-tooth skylights, like those on the roof of a textile weaving shed, the glass areas being in the vertical portions.

That the daylight received would be inadequate was recognized from the outset, and supplementary artificial lighting was provided. This consists of four trough fixtures, each containing three 450-watt mercury vapor lamps and twelve 200-watt incandescent lamps, three of which are "daylight" blue. Porcelain-enameled reflectors project the light against the slanting white painted ceiling surface above, from which it is reflected directly downward upon the designers' cases



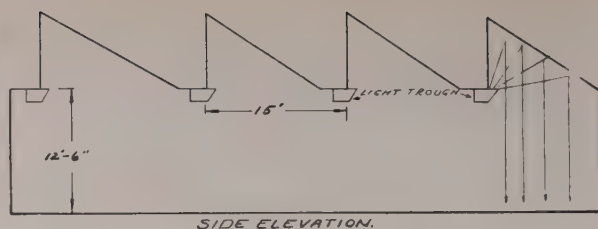
and drawing-boards. There are, consequently, no shadows, and the even distribution of light throughout the room prevents the eyestrain which occurs when a working surface is brightly illuminated in a room that is otherwise dimly lighted—as is usually the case where localized illumination is employed. The skylights face the north, and the artificial light matches and blends with the natural north light. It is of sufficient intensity so that no variation is noticed as the strength of the natural light varies. The average illumination is 26 foot-candles. Drawings and a photograph herewith show this installation.

There are two interesting installations of this type of combination light-

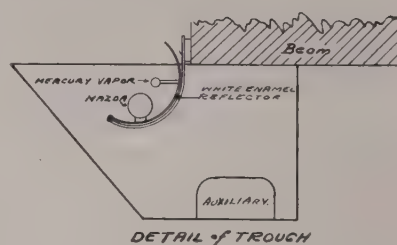
The oval restaurant, which also is in John Wanamaker's Philadelphia Store, receives no natural light. It is given the cheerfulness of an outside room by four dummy windows glazed with pebbled glass, back of which are combination

mercury vapor and incandescent lamps producing the illusion of daylight. The effect is heightened by the warm tone of the light from the central ceiling fixture, which contains only incandescent lamps.
John T. Windrim, architect





In the designing-room of Bigelow-Sanford Carpet Company the amount of day-light received is insufficient, and supplementary artificial lighting is provided as illustrated herewith in the photograph, section and detail



the ceiling, and it is of daylight color, so that the lighting conditions under which the garments will be worn out-of-doors are closely approximated.

The oval restaurant in the same store, which receives no natural light, is given the cheerfulness of an outside room by four dummy windows glazed with pebbled glass; back of these are combined mercury vapor and incandescent lamps to produce the illusion of daylight. This effect is heightened by the warm tone of the light from the central ceiling

ing in the John Wanamaker Store in Philadelphia. In the women's outdoor wear salon the lighting is from pylons in the four corners of the room, each of which contains two 300-watt mercury vapor tubes and twenty-four 75-watt incandescent lamps. The light is projected horizontally from all sides, as well as reflected from



A showroom in the Kensington office of the Philadelphia Electric Company. Here are luminaires combining mercury vapor and incandescent lighting with their approximation of daylight

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fixture, which contains only incandescent lamps.

A form of combination luminaire that is suitable, with modifications to bring it into harmony with the architecture, for use in a wide variety of rooms such as stores, banks, show rooms, theatre lobbys and entrance halls of office buildings, is used in the show room at the Kensington Office of the Philadelphia Electric Company. It is a flat box of alabaster diffusing glass in a metal framework. Each

window into the portion that depends mainly upon artificial light from these combination fixtures.

These fixtures demonstrate that the auxiliary apparatus can be neatly incorporated in the design of the fixture itself, for it is housed in the central square part. As some of the incandescent lamps in each of these fixtures are on a separate circuit, it is possible to tone the color of the light by varying the proportions of in-



A detail in the showroom of an electric light company in Allentown, Pa.—another example of combination lighting, with the luminaires close to the ceiling



Showroom of the Philadelphia Gas Works Company, in which luminaires of considerable size are hung from the ceiling to serve both directly and indirectly

unit contains four 450-watt mercury vapor tubes and thirteen 500-watt incandescent lamps.

Semi-indirect fixtures are employed in the large show room of the Philadelphia Gas Works Company. Each contains a 450-watt mercury vapor tube, bent in a rectangle, four 300-watt incandescent lamps, and four 60-watt incandescent lamps in the bottom bowl. The quality of this illumination matches the daylight which pours in through the large windows at the front, so well that they blend perfectly and no change can be observed as one passes from the portion of the room that is lighted by the

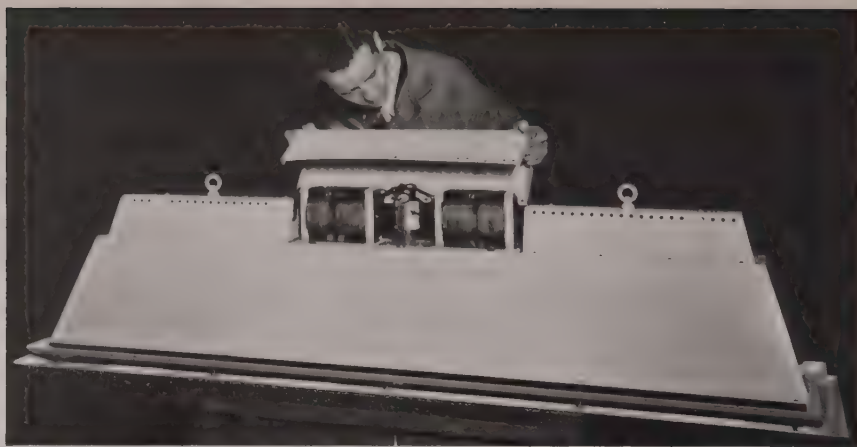
candescent light in the mixture, using a cold north light color in summer and a sunshine effect in winter.

Usually, of course, fixtures of special design meet the requirements best, and frequently this combination lighting can be used best in built-in light sources incorporated in the architecture. Technical assistance would be advisable for architects working out any such designs.

In all of the luminaires described above the mercury vapor lamps are those made by the General Electric Vapor Lamp Company and the fixtures were made by the Voigt Company,



The new high-intensity mercury-vapor lamp made by the Westinghouse Lamp Company produces approximately 35 lumens per watt



One of the luminaires used in the Ford Building at A Century of Progress Exposition. The auxiliary apparatus for high-intensity mercury-vapor lamps is in the top of the housing

licensees, Philadelphia, Pa. The incandescent lamps are all standard Mazda lamps, excepting the blue lamps, which are "daylight" Mazdas.

Combination luminaires designed upon the same principle of combining light from incandescent and mercury vapor lamps but in which a different type of mercury vapor lamp is used are now being employed. This is the new Westinghouse high-intensity mercury lamp, which is only $12\frac{3}{4}$ in. long by 2 in. in diameter, but delivers about 15,000 lumens of light and consumes only 400 watts of current—an efficiency of about 35 lumens per watt, as compared with the output of approximately 15 to 20 lumens per watt obtainable from incandescent lamps. Its light, being of the characteristic mercury light color, is rich in the violet blue and green in which light from the ordinary incandescent lamp is deficient; therefore it combines well with the latter to produce light of a quality similar to daylight, by mixing them in about equal quantities.

This high-intensity mercury lamp screws into a mogul socket. Its normal burning position is base up, but lamps for base-down burning are obtainable. It must be used in a vertical position.

This lamp has two bulbs, one within the other. The inner tube

is of a special glass to withstand the high temperature generated in operation, and the outer tube is a heat-insulating jacket to ensure the complete vaporization of the mercury. It also protects the inner structure. The amount of mercury is so gauged that when it is completely vaporized the desired pressure within the tube is secured. A small amount of pure argon gas is added in the arc tube to facilitate starting the lamp.

An outstanding installation using these new high-intensity mercury vapor lamps in combination with Mazda lamps was that in the Ford Motor Company building at the Century of Progress Exposition.



The Ford Motor Company's Building at A Century of Progress Exposition, where an approximation of daylight was produced by high-intensity mercury vapor lamps combined with incandescent lamps. Albert Kahn, Inc., architect

I HAVE been thinking that following, austere, primly, conscientiously, the lure of modern or contemporary architecture is to some extent an intellectual pursuit. It is urged by and based upon a lot of ergo's and whereas's and wherefore's. It is the result of a number of logical steps, which carry one reasonably from axiom A to fact B to conclusion C, by inescapable steps of deduction.

There is a certain calculated primness about it, by which its rightness and propriety can be established and run back step by step to the pure white light of truth.

Those logical steps are in theory very precious to most of the Scandanaphiles who operate and design in modern. The pedigree of their art is of value to them. They wish it understood that they tolerate under their roof-tree no uncertain processes of thought, no wavering nor immature excuse for beauty.

They keep their heads up, their eyes open wide. There is no absent or distant expression in their gaze. They stride forward, earnestly awake. No dreams in their panorama! No distant gazing! They have truth in their bosoms and they cannot permit their minds to wander from it.

All of which is a sturdy base for any art or profession or undertaking. Truth! Clear, white-lighted truth! What foundation could be more admirable.

But what is it they say about truth? Naked. Fine, admirable, desirable—but naked! And doesn't it seem to you sometimes when you look at some of the Moderne architecture that it has taken on too much of the bareness of Mother Truth and not enough of the other qualities?

I don't mean a seductive, Lady-Godiva nudity. But rather a surprised-in-its-B.V.D.'s sort of thing. It hasn't got the last layer on.

Whether that is an adverse criticism or simply a clear statement of the aim of this new procedure in architectural design, I could not begin to say. The subject is not simplified and coordinated in my mind to that extent.

The style—if it be one—appears, from the seat I occupy, to have reached a temporary state of paradox. It was started as verbal architecture, being, as I have said, based on a series of logical deductions and observations concerning functions, new

The Reflecting Pool

Erwin Bateman Morris

needs unconnected with old forms and the like. There came thereafter the period of pencil-pushing to develop a tangible expression for the verbal theory. The tangible expressions came in profusion. A rather curious state of mind came also. The designers in Moderne began more or less to slur over the reasons for being different from traditional architecture and to emphasize and underline mere difference as being a desirable thing.

Thus there is the element of paradox. The style, based on logic and verbal exposition, has become wordless. The first set of pencil-pushers evolved a series of designs which were logical developments of certain almost hard and fast ideas. These series of designs at once ceased to be the outward signs of a definite creed. The followers of the cult said, "These designs have a certain facial expression. We will develop that." They cast aside the hard and fast ideas of the creed and groped about the expression. Every now and then they found a motive or a detail which seemed to be in character and all they could say about it was, "I feel it. It's in the groove. I can't say anything else."

I have considerable admiration for the workers in the style. I wish it might be my privilege to corral a few of them one day and evolve a few generalizations to act as a primer of this new architectural movement.

There is one very definite hindrance to their efforts, from my way of thinking. In their eagerness to catch and fix the characteristic expression of the style, they have had this involuntary aversion to historic motives of any kind. A tried and true architectural detail throws them off, drags them back out of the plane in which they work, confuses them.

If the traditional design of window-panes requires the panes to be higher than the width, that dis-

tracts them. They make the panes less high than the width so as not to recall the past. It is done, apparently with a deliberate effort at disassociation rather than by the urge of design.

Thus you have them eliminating the studied achievements of the past, because of their own unsteadiness in their own sphere. What we ought to do is to get them into an assured state of mind so they are certain, or more certain, of the things which express their style. Then they will be free to accept and adapt the big achievements of other days.

Moderne will then appear to be more prolific. As it is, it has only the motives and details of modern devising. It would be more versatile if its workers were not fearful of duplicating the dreaded things of the past.

That accounts for its meagerness. It is sparse, bare, naked, because human ingenuity is simply not up to the task of devising enough brand-new ideas (without recalling past ideas) to cover the surface.

And that, in a word, is the present fault with the new style. There is needed an architectural Mussolini, who will establish and crystallize the style and say to the design-evolvers, "Now, boys, we've decided on what this style as a style ought to look like. From now on, we will let in a few sound and mellow motives which in the past have made architecture look like an art and which in the future will help Moderne architecture look like an art."

Then we can get some of these contemporary I'm-positive-I'm-right boys to thaw out a little and take architecture as an art dating from 500 or 600 B.C. to the present, rather than from 1920 to the present. It would give them so much more of a relaxed feeling.

They wouldn't be so constricted. Every old beautiful architectural motive (and really there are many such, take my word for it) would not for them have a "Keep-off-the-Grass" sign attached. I should think they would feel so much more free and unbound. They could dream and invite their souls without fear of being contaminated by the influence of Michelangelo and Sansovino and those other fellows who never subscribed to Moderne.

They would enjoy architecture so much more.

BOOK REVIEWS

KINDERGARTEN CHATS ON ARCHITECTURE, EDUCATION AND DEMOCRACY. By LOUIS SULLIVAN. Edited and introduced by CLAUDE F. BRAGDON. 256 pages, 6¼ by 9½ inches. Illustrations from photographs. Lawrence, Kan.: 1934: Scarab Fraternity Press. \$2.50.

The Scarab Fraternity, a professional group of which Louis Sullivan was an honorary member, places the whole profession of architecture and its student body, now and for years to come under a heavy debt. Louis Sullivan's "Kindergarten Chats" contained the real meat of his philosophy. They were published weekly for a year in an obscure journal, so that they have been until now almost lost to the world. Through George G. Elmslie, who is Sullivan's literary executor, aided by the sympathetic and skilful editorial services of Claude Bragdon, "Kindergarten Chats" now takes its place among the classics of architectural literature.

OUTLINES OF THE HISTORY OF ARCHITECTURE. Part III, RENAISSANCE ARCHITECTURE. By REXFORD NEWCOMB. 193 pages, 8¼ by 10½ inches. Pamphlet binding. New York: 1934: John Wiley & Sons, Inc. \$3.

Professor Rexford Newcomb, of the University of Illinois, has been using these outlines in his classes for some years. The present volume is a revised and enlarged form of Part III, dealing concisely and in a well-balanced manner with Renaissance architecture in various countries. The book is arranged for classroom use, obviating the necessity for burdensome notes in lectures.

SERVICE CHARACTERISTICS OF THE LIGHT METALS AND THEIR ALLOYS. Prepared by Subcommittee VII of Committee B-7 on Light Metals and Alloys, Cast and Wrought, American Society of Testing Materials. 33 pages, 6 by 9 inches. Philadelphia: 1934: American Society for Testing Materials. 50 cents.

Data concerning aluminum and magnesium and their alloys—metallurgical characteristics, their requirements, surface protection, and the like.

BOOK OF THE SCHOOL. Department of Architecture, University of Pennsylvania, 1874-1934. By the Architectural Alumni Society. 213 pages, 7½ by 10 inches. Illustrations from photographs and drawings. Philadelphia: 1934: University of Pennsylvania Press. \$3.

With such men as Edwin Bateman Morris, Leicester B. Holland, Paul Cret, Dean Laird, George S. Koyl, and Donald M. Kirkpatrick having a hand in the preparation of this story of an architectural school, its interest and charm of presentation is assured. Not only will all Pennsylvania men treasure this volume, but architects generally will want to give it a place on their favored bookshelves. Following the story of the school there is a generous section of photographic plates illustrating representative work of the best known among the alumni.

ACUSTICA APPLICATA ALL' ARCHITETTURA.

By C. MARCHESI CAPPAL. 280 pages, 8¾ by 10¾ inches. Illustrations from plans and diagrams. Cloth pamphlet binding. Milano, Italy: 1934: Ulrico Hoepli Editore. L. 50.

A volume, written in Italian only, devoted to the science and practical application of acoustics to architectural forms.

A. S. T. M. TENTATIVE STANDARDS—1934. 1257 pages, 6 by 9 inches. Illustrated by drawings and photographs. Philadelphia: 1934: American Society for Testing Materials. Cloth, \$8; heavy paper cover, \$7.

ART IN AMERICA IN MODERN TIMES. Edited by HOLGER CAHILL and ALFRED H. BARR, JR. Foreword by F. A. WHITING. 100 pages, 9½ by 12¼ inches. Illustrations from photographs, including 9 plates in full color. New York: 1934: Reynal & Hitchcock, Inc. \$1.50.

This volume was prepared in combination with an educational radio program sponsored by museums and other organizations, broadcast through the present winter. The book supplements these talks in its text and illustrations on painting, sculpture, architecture, stage design, photography, and the motion picture.

SYMPOSIUM ON THE OUTDOOR WEATHERING OF METALS AND METALLIC COATINGS. 113 pages, 6 by 9 inches. Illustrations from graphs and photographs. Pamphlet binding. Philadelphia: 1934: American Society for Testing Materials. \$1.25, heavy paper cover; \$1.50, cloth.

LIGHT IN ARCHITECTURE AND DECORATION, 1934. 116 pages, 6 by 9 inches. Illustrations from photographs. Pamphlet binding. New York: 1934: Illuminating Engineering Society, 29 West 39th Street.

The annual publication of the Illuminating Engineering Society. More and more, the profession is coming to expect among the illustrations in these annual volumes, the most interesting solutions of the year in problems concerning the proper relationships of architecture and lighting.

THE MATERIALS OF THE ARTIST AND THEIR USE IN PAINTING, WITH NOTES ON THE TECHNIQUES OF THE OLD MASTERS. By MAX DOERNER. Translated by EUGENE NEUHAUS. 432 pages, 5¾ by 8¼ inches. Illustrations from photographs and paintings. New York: 1934: Harcourt, Brace & Company. \$3.75.

Here is a record of research into techniques, which has all of the marks of thoroughness that we expect in the work of the German scientist. The work covers grounds, pigments, oil binders, tempera, pastels, water-colors, frescoes, peculiarities of techniques, and restoration of easel pictures.



The Architectural Observer



THE SORT OF THING THAT BRINGS INTO USE THE ROVING ARCHITECT'S NOTEBOOK OR CAMERA—A GOOD IDEA OR AN ODD ONE

THE heavy arch as an entrance motif is apparently rather popular among the contemporary architects of Holland. In this church at



Amsterdam, the ring joints in the brick arch are deeply raked. Notice the way in which the barrel-vaulted vestibule is lighted by the stained-glass arch over the doors.



THE photograph herewith, sent to us from a Shanghai correspondent, illustrates no windowless department store, no storage warehouse, such as the Chinese might



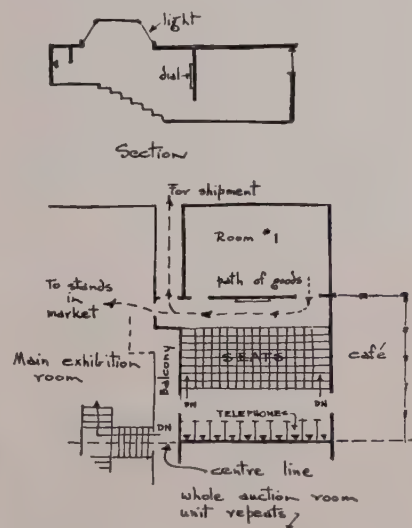
have adapted from present-day ideas in our Western civilization. Those who know China will recognize the custom that prevails over there by which the contractors cover the framework of their new buildings



with bamboo matting. The idea seems to be that the pedestrian must be fully protected from the danger of falling objects. Perhaps at that it is cheaper than public liability insurance.



MOST auction rooms and commercial exchanges are noted principally for their noise. Here, however, is one in the new municipal fruit and vegetable market of Amsterdam where most of the noise is eliminated. The produce is exhibited before the auction in room



No. 1. Then items are wheeled out into the pit for bids. On the wall facing the seats is a large dial with illuminated numbers from one to one hundred. The highest number is first illuminated, representing the price. It thereupon descends until a buyer presses a button at his seat. This stops the dial, and flashes his seat number on the board, and the sale is made. Each telephone booth at the top of the pit also has a button, so that bidding may be done from the booth while watching the board and speaking to office or client at the same time.

THE modernists in England are, for the most part, fairly restrained in their development of the new forms. Here is a good example



in the doorway of the Nurses' Home on Guilford Street, London, where Stanley Hall and Easton & Robertson have utilized the flashing on the slightly projecting marquee to gain a decorative feature. Incidentally, the manner of stopping the rustication on the curve of the reveal is interesting. The door is lacquered in bright emerald green.



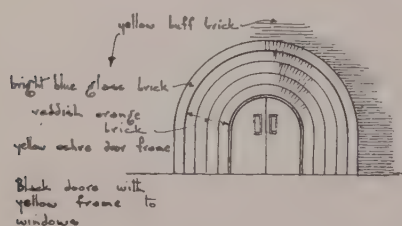
SWEDISH architects show a curious combination of rugged, simple materials with unusual motifs, in their doorways. In this doorway in



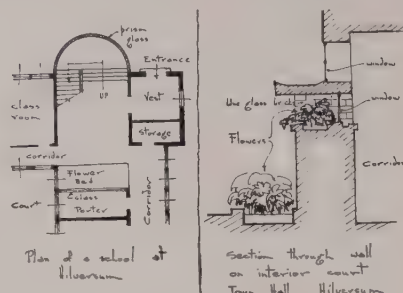
Stockholm, the walls are of gray stucco, the steps granite. Note the use of the door number as a minor spot of decoration just above the granite cheeks.

AMSTERDAM has a restaurant in which service to the tables is not only on the first floor, but on the

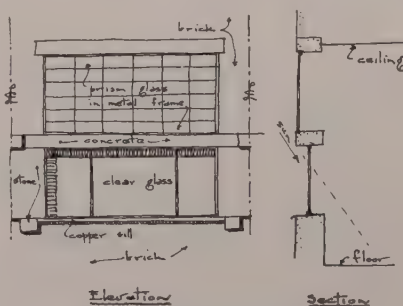
THESE Dutch architects do not balk at the use of color, even though the northern countries are supposed to be rather drab in gen-



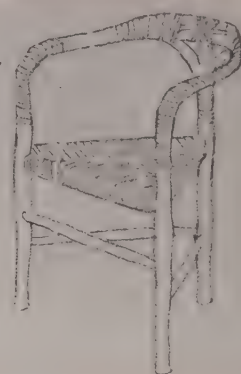
DUTCH architects of today are making much more use of growing plants in the design of their buildings. Here are two examples of their use by W. M. Dudok. The



IN the Gebouw Vrije Universiteit, Amsterdam, an attempt has been made to secure the maximum amount of light in the classrooms and laboratories, but with a minimum of sunlight, the latter being a disturbing element. The windows are divided into two parts, the upper one having prism glass set almost



THE outdoor terrace, whether paved with brick, flagstone, slate, or tile, does not always offer a perfect plane. The four-legged chair



CHIMNEYS - CURAÇAO, D.W.I.

west, as it happens, since the Trade Wind comes from the northeast. Throughout the island the architecture shows Dutch influence, with a lesser degree of Spanish, which you may or may not be able to discern in these chimney caps.

Monday, January 28.—Harrie T. Lindeberg, who was one of the judges of the Beaux-Arts Institute's recent problems, An Embassy for the United States in Russia, was feeling somewhat dejected today, not over the results of the competition, but over the fact that the program really gave the student a very hazy concept of what an embassy is. Lindeberg, who has designed the group of buildings that we hope shortly to build in Moscow, points out the fact that an embassy is not necessarily the residence of an ambassador; there is the chancery, where government business is transacted, and there is the ambassador's residence, not to mention other elements of the scheme, such as quarters for the diplomatic staff, clerical force, and others; moreover, that an ambassador's residence is not necessarily a casino, built for constant entertainment, since customarily he gives but one large public dinner a year, and that a buffet one; that the residence of an ambassador is the home of a cultured gentleman who lives necessarily, or by preference, upon a certain scale, that he needs servants, and that he needs servants' quarters. Judging from the results of the Beaux-Arts competition, there were few students who grasped these fundamentals.

Wednesday, January 30.—R. P. Dodds in from Youngstown, Ohio, bringing word of what sounds like a real attempt on the part of a community to build some houses of modern fireproof materials at a cost that seems for the first time to have come down to earth. It is a subsistence homestead scheme, but the one-acre units are scattered about the outskirts of the community rather than being grouped. The story is that the house, designed by Cook & Canfield, of concrete block ashlar, steel joists and windows, and tile roof, is one of five rooms, to sell, with an acre of ground, for \$5,000 or less. I hope we may have more detailed news of this later.

Thursday, January 31.—Titles II and III of the National Housing Act, which promised so much in putting the first mortgage upon a firm foundation, have met a stumbling-block in the form of state laws. There are various statutory limitations upon loans and investments by investing institutions, and these laws prevent the institutions and the people they serve from benefiting fully in the national housing program. Three states have already removed these limitations—New York, Ohio, and Louisiana. The governors of others are, for the most part, urging the passage of the necessary legislation. The architects, individually and in organizations, may be able to help the cause by getting behind this movement.

Friday, February 1.—We are inclined to believe that all of our present-day problems are new ones—problems that



The Editor's Diary



would have staggered our forefathers, since those of their day were comparatively simple and solved without great difficulty. Nevertheless, if you will look back over the files of our architectural magazines of a half century ago, you will almost believe that you are reading the words of today.

In regard to housing, "It is not difficult to find a place for those who pay \$75 to \$150 per month rent; the difficulty has been to find good homes, pure air, and pleasant surroundings at a rent from \$12 to \$30 per month.

"A request has just been formulated providing that in future the designs for Government buildings shall not be prepared in the Government office."

"A correspondent in Pittsburgh seeks ideas for lighting fixtures and methods that shall be 'original and peculiar to the capabilities of incandescent lighting. Everything, so far as I have seen, is a modification or readjustment of old gas fixtures.'"

"The very same circumstances which favor the invention of new forms also carry in themselves the danger of arbitrary and whimsical ideas taking the place of the beautiful and the practical."

Here, however, is one which dates rather definitely: "Boston possesses more plate glass in proportion to population than any other city of the country." (1887.)

Sunday, February 3.—The Museum of Modern Art is showing some sculpture by Gaston Lachaise. Feeling my own inadequacy to criticise sculpture of the present epoch, I am glad to quote Mr. L. Lincoln Kirstein, who, in the foreword to the catalogue of the exhibition, says of Lachaise, "In his work there is a concentrated dynamism which is so intense that it repels while it attracts." So we'll let it go at that.

Monday, February 4.—Most of us have a rather vague impression that the total value of private mortgages in this country must run into many figures. Well, here they are: In 1932 the real estate mortgage debt in the United

States as a whole was estimated at approximately forty-three billion dollars. Of this, twenty-one billion dollars represented individual mortgages on urban homes; eight billion dollars, mortgages on farms; fourteen billion dollars, mortgages on commercial property. This total is more than three times the total railroad debt; four times as large as the industrial long-term debt; and nearly as large as the present combined total of National, State, county, and municipal debt.

Wednesday, February 6.—The Cleveland Chapter is well embarked upon a campaign working toward the better education of the public regarding architectural services. Through their local newspapers they are urging the formation of a National Home Information Council, to be composed of architects, landscape architects, and interior decorators. The furtherance of such a purpose gives opportunity, incidentally, for emphasizing the fact that professional services actually save the client money in addition to securing for him a better job.

Friday, February 8.—China has gone in for air conditioning. In Shanghai's International Settlement a new apartment hotel, which incidentally combines an office building and bank, has air-conditioned its lounge, lobby, dining-room, and grille-room, as well as the bank's safe-deposit vaults.

Saturday, February 9.—Philadelphia is to put up a building four feet wide on a strip of ground just that width; it is all that is left of a corner plot after the city sliced off a portion to widen Fifteenth Street. The building will be only one story high, constructed of stainless steel and glass, to house a restaurant. The whole front will be removable for the summer.

Monday, February 11.—Henry Wright speaks very highly of Catherine Bauer's "Modern Housing," recently published. He says that it presents very concisely and in a well balanced way, the whole story of European housing. Incidentally, the Columbia University Press tells me that Henry Wright's own book, "Rehousing Urban America," parts of which we were privileged to publish in these pages last year, is scheduled for publication on May 25.

Wednesday, February 13.—Planning as a necessary factor in the life of the nation is becoming more and more widely accepted. There is now the American Society of Planning Officials, organized recently in Chicago. Its purposes are to act as a clearing house for the exchange of information and improvement of standards and practices in land and community planning, and to serve the increasing body of public plan-

ning agencies, their staffs and consultants. Albert Bettman of Cincinnati is president, and headquarters are at 850 East 58th Street, Chicago.

Friday, February 15.—Some one has said that there have been more words quoted and printed on the subject of housing in the last two years than on any other subject, unless perhaps on the broader one of economics. The sad part of it is that this great flow of words has been almost without result. Here are a few additions to the number already written: there are still 530,000 flats in the old-law tenement houses of New York City today. Typically, the length of one of these three-room flats is twenty-eight feet and its width thirteen; only one room has windows on an outside court. A single window in each of the other rooms opens upon a dark shaft. Four persons would be a low average found in each of these flats, indicating that about two million of the population of New York City still live in homes that more than thirty years ago were classified by law as unfit for human habitation.



Sunday, February 17.—The New York Public Library offered two strong inducements for a visit there this afternoon. First, an exhibition of the Fifty Books of the Year—the best work that is being done from the standpoint of design. It is a great relief to find one branch of art in which the extreme modernism, so rampant, seems to have little if any foothold. Book covers, title pages, and text pages continue to be designed for the most part rationally, and, though heightened by a spirit of fresh interpretation, yet based pretty firmly upon traditions of printing. Obviously the reason for it is that a book has to be designed to be read. If it isn't intelligible at a glance, it will not do. It seems a pity that the same cannot be said for painting and sculpture.

The Library has recently installed on the lower landing of the main staircase a niche containing a bust of the late Thomas Hastings. It is a particularly chaste setting that Theodore E. Blake—long an associate of Mr. Hastings—has made for Frederick MacMonnies' bust. The latter is an excellent likeness of one of the most charming and brilliant figures in American architectural history.

I hear that friends of the late John M. Carrère are preparing a memorial to serve as a companion to the Hastings bust. The friends and admirers of Mr. Carrère who may want to have a part in this may, I am told, send subscriptions to the Carrère Memorial Committee, care of the Municipal Art Society, 119 East 19th Street, New York City.

Monday, February 18.—John Marsman who has been teaching interior

decoration at the Parsons' School, was telling me today at luncheon about some of the more obvious points at which the architect and the interior decorator clash. The feature that makes the interior decorator froth at the mouth when he meets it is the axial fireplace at the end of a room closely flanked by French doors opening out upon the terrace. It is quite impossible to furnish this end of the room satisfactorily—not only from the decorator's viewpoint, but from the viewpoint of those who have to live in the room. Still another fault is the architect's inclination to put doorways and windows in the centres of wall spaces, thereby frequently splitting the wall into two parts, neither of which is suitable for furniture. It seems to me that there are so many details of this kind in which the architect can learn something from the skilled interior decorator, that I have asked Mr. Marsman to set some of these things down, with sketches, for an early issue of the magazine.

Wednesday, February 20.—Martin J. Beirn calls attention to a fact that should be fairly obvious, but seems not to have been generally recognized. In the rather hurried period, stretching for some years back of the depression, during which there was more or less of a natural scamper to provide shelter, it was about all the building industry could do to fill that need. Improvements were made in building methods and materials, but these improvements naturally went only into the new work. The style of bathroom fixtures, the number of bathrooms in a house, the lighting fixtures—any of these is a perfectly reliable indication usually of the age of the house. Now that we have got our shelter, such as it is, the next thing to do would seem to bring it somewhere nearly in keeping with our present knowledge of how to live.

Friday, February 22.—I see that the famous Trocadero in Paris is to be torn down and thrown on the junk pile. The Michigan Society of Architects' *Weekly Bulletin* remarks that whereas the Trocadero for years was considered one of the ugliest public buildings in Europe, it was erected for the Paris Exposition of 1878 as a permanent monument to architectural taste. The people of that day and a little later—1889—were shocked when the Eiffel Tower was put up, and considered it an æsthetic atrocity, to be torn down with the passing of the exposition. The fact that it has endeared itself to France and other peoples is a confirmation of the French proverb that "only the temporary endures."

Monday, February 25.—I don't know who the individual is who is responsible, but the Home Owners Loan Corporation has printed Master Specifications for the Reconditioning Division which is a

splendid piece of work. For use with the Master Specifications there is a contract form on which the owner and the contractor agree upon items and the prices for these. Of course, the whole thing was devised for use in comparatively small remodelling operations. The thought occurs that there may be some sort of an answer here to the perennial question of how the architect is to serve the small home builder. Such a Master Specification, with a combined contract form and check list of items covered, might, with a few simple drawings, replace the whole lot of documents involved in the traditional architectural service.



Tuesday, February 26.—Corning Glass Works staged a brilliant exhibition of their work in many decorative and structural uses of glass at the Steuben Glass Company's galleries today. I was particularly interested in a small section to be used in the main Fifth Avenue entrance to the Italian Building in the Rockefeller Center group. Pleased with the success of the use of heavy glass blocks in the main entrance of the tall building at the end of the Plaza, the architects are using glass that is more deeply and heavily molded, I should think, than any heretofore made. The depth of the molding must be at least three inches beyond the main thickness of the glass, which is considerably more.

Wednesday, February 27.—Frederick Mathesius, who is vice president of the New York Chapter, and chief architect of the F. H. A.'s New York office, brought Miles L. Colean, director of F. H. A.'s Technical Department, to a luncheon meeting today to talk about the program of the Federal Housing Administration. Considering how carefully Titles II and III of the National Housing Act have been explained, it was surprising to find out how many questions, foolish and otherwise, could be asked concerning details by the members present. I am afraid most of us do not depend upon our own efforts to learn about such matters as these from the source, but get into the habit of waiting for someone to tell us about them.

Thursday, February 28.—We have more than once mourned the fact that the architectural profession has failed to come through with a really broad and altruistic program for the rebuilding of America. Morris L. Ernst, speaking at The Architectural League today, indicted similarly all of the industrial and professional groups in this country—bankers, real estate men, newspapermen, and all the rest, not excepting the group to which he himself belongs, the lawyers. So much of what one hears and reads is merely destructive criticism, not a constructive contribution.

FAVORITE FEATURES



Many of the architect's creations fail to measure up to his expectations. Here is one of a series, however, that satisfy, in a measure, the designers themselves
(Scale details overleaf)

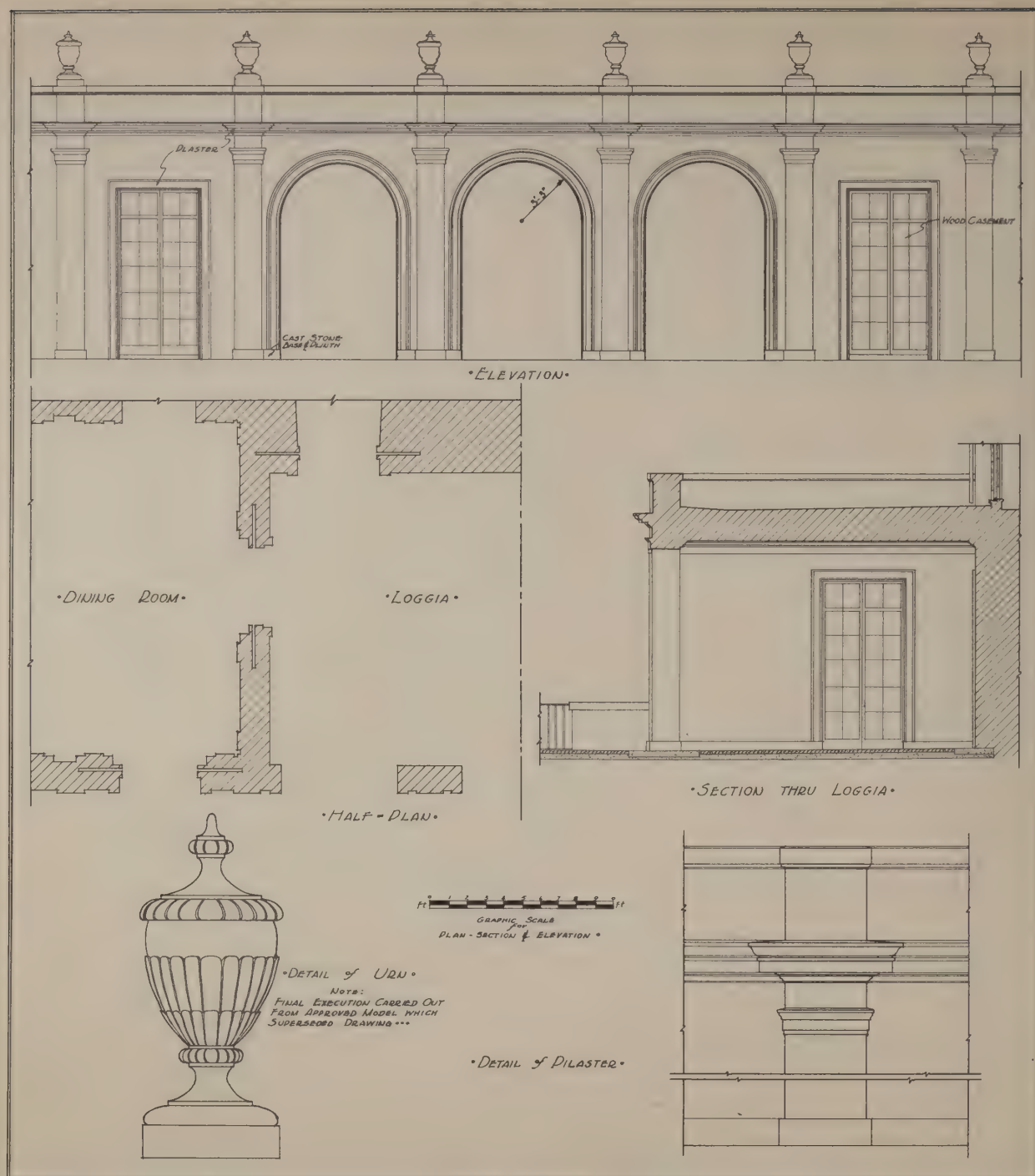
South Loggia, House of A. C. Magnus,
Montecito, Calif.

THE OFFICE OF REGINALD D. JOHNSON
ARCHITECT

« ARCHITECTURE »

APRIL, 1935

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South Loggia, House of A. C. Magnus
Montecito, Calif.

THE OFFICE OF REGINALD D. JOHNSON, ARCHITECT

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Photographs by George D. Haight

HOUSE OF STUART O'MELVENY
LAKE ARROWHEAD, CALIF.

The Office of Reginald D. Johnson
ARCHITECT

"The O'Melveny house was designed for week-ends during the time of winter sports at Lake Arrowhead, and as a summer cottage. All in all, I feel that it represents the best that I have accomplished in the way of securing adequate accommodations at a minimum cost."

—REGINALD D. JOHNSON

In view of the fact that the architectural profession will unquestionably devote more of its energies during the next few years at least to the design of the small house, we have asked one hundred architects to send us, each, the best small house that he has designed. These will be published from time to time during the coming months, and should prove a source of information and inspiration in this field.—Editor

ONE HUNDRED SMALL HOUSES

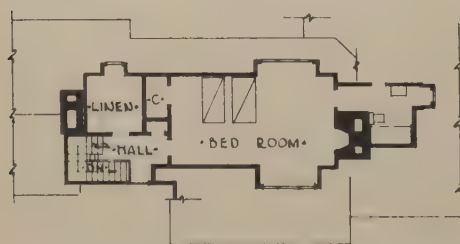
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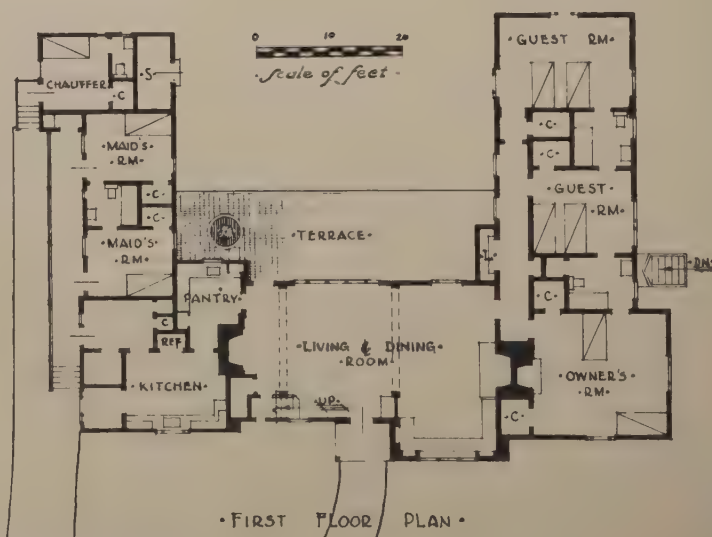
One end of the living-room from which the bedroom wing is reached through the door at left

On the opposite page is shown the broad window and the doorway leading out upon this terrace which as yet is beach sand



• SECOND FLOOR PLAN •

In accordance with the custom of California communities, the house spreads out mainly upon one floor level, a broad terrace replacing in this case the sheltered patio



• FIRST FLOOR PLAN •

« ARCHITECTURE »

APRIL, 1935





The dining end of the living-room. The two fireplaces in the living-room contribute to its dual purpose



One of the bays and the fireplace end of the bedroom on the second floor

« ARCHITECTURE »
APRIL, 1935

1—GENERAL

IN painting specifications, as in those of many other trades, superlatives are used far too often. The word "best" is one of the chief offenders. Practically every time this word appears the architect may be sure of a disagreement with the painter as to the specific grade. Another stumbling-block is the word "pure." The architect will very likely have in mind the definition, "free from mixture with that which impairs," but the painter will think no further than some obvious adulterant. "Highest quality," "covering power," and "best obtainable" are terms to be studiously avoided in the first-class specification, unless they are meticulously defined.

The architect should include in the painting contract everything necessary for the execution of the painter's work. This will include material, labor, scaffolds, ladders, etc., not to mention compensation as well as liability and contingent insurance (in case one of the pots of paint should chance to fall on a passer-by!).

All inferior brands should be eliminated from consideration in any specification which deals with painting. All products which are not fully and clearly labelled should be barred. All ingredients deleterious to any of the materials used should also be ruled out, such as resins in Japan driers, "extenders" which may cheapen the initial cost but eventually prove expensive because they shorten the life of the protective film. These "extenders" are well named because they add to the bulk or weight of the product but do no useful work except to make the material go farther for the contractor.

2—KINDS OF PAINT

It would be an impossibility to name all the various types of paint that are on the market. They vary from those which prevent dampness entering the basement to those which give a fine luster to an interior piece of woodwork.

Damp-proofing paint used on the foundations or other exposed parts of the building generally contains fiber. The oil content tends to vary and with this also the price. The mixing is also a big factor and to some extent this also determines the cost. The application of these paints is difficult and the architect

Better Practice

By W. F. Bartels

PAINTING

must be stringent in his orders that the surfaces be entirely covered.

There are on the market some paints which are recommended for use where painting is desired before the plastering is fully dry. These paints of course can contain no oxidizing oils, such as linseed. It should be insisted that the manufacturers' directions be carried out implicitly in the use of these materials because if not, trouble is likely to develop.

Special types of paint, such as those for the inside of ducts where there may be various fumes; acid-resisting paints where acids are to be used, etc., must all be carefully chosen. Other special-purpose paints, such as those for acoustical work, must be of such a nature that they do not interfere with the deadening of sound. Paints which are fire-resisting and others of like nature must be carefully chosen and then put on by workmen just as carefully selected.

Enamels or paints for laboratories, hospitals, etc., must be chosen not only for sanitary purposes, but also with a thought of their maintaining their original color and luster for a reasonable period of time. Too often these are a disappointment to the architect when he finds that, due to unavoidable impurities and gases in the air, the color and surfaces of paints or enamels may change considerably.

Stains must be given careful consideration if the architect is to derive their full benefit for the job. Some stains must be used with care. For example a stain which may "bleed" would not be a desirable one to use where a fine finish was desirable; nor should such a stain be used if the surface may subsequently be painted.

The selection of a varnish should depend to a large extent upon what use the architect intends to put it to. Obviously a varnish used where it is exposed to the elements will not contain the same ingredients as one which is to be used on the interior. The architect must bear this in mind, not only to take advantage of

a price range but also in order that he may use the best-suited material. Shellacs, too, should be given attention. One architect recently specified a five-pound cut shellac to be used (in every gallon there is rarely more than five pounds of solid shellac ground in it); but he failed to stipulate that it was not to be cut with any adulterant. Seldom would a painter put on a material of this quality without thinning it down. It would seem better to specify a lighter shellac and clearly state that no thinners would be allowed with it.

There are so many highly technical points in the mixing of paints that the architect is generally forced to rely upon a manufacturer's reputation in selecting his paints. There is no harm in this; in fact, it is distinctly to the architect's advantage if he selects the right manufacturer. However, the architect cannot be cautioned too strongly to be sure that he is dealing with the manufacturer; and not a distributor whose sole idea may be to see how much of a certain line of material he can unload on the job, and who is not above changing containers and labels.

There are several facts which may well be kept in mind. Certain colors cannot be made entirely of white lead and linseed oil. Therefore when these colors are used it is useless to specify that they be "made of pure linseed oil and best quality white lead." Then, too, colors change under different conditions, such as high temperatures. When paints are used on steam lines or radiators the colors used should start out lighter than is desired because the paint is certain to darken.

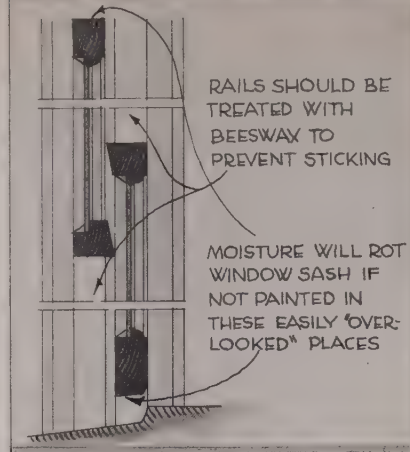
Much has been written about turpentine and linseed oils in paints. Turpentine really forms no part of the paint film when dried; its chief duty is to carry the oils and pigments to all parts of the wood surface. This done the turpentine eliminates itself by evaporation. Much, too, has been said about both the raw and the boiled linseed oil. Many arguments have been waged over the relative merits of the real "kettle-boiled" oil versus the "bung-hole" boiled oil. The latter is prepared by having driers added to it. It has recently been found that bung-hole oil is not so bad as it is generally depicted, provided the proportion of driers added is not too great and that these driers do not contain rosin.

The condition of the surfaces to which paint is applied must be given almost as much consideration by the architect as the paint itself. In interior work many surfaces are too often painted without first being washed. This is particularly true of kitchens and bathrooms. To apply average paint to wet plaster, or to use it over any plaster that has any "hot spots" (places where there is alkali that would be damaging to a paint) is openly courting trouble. Wood surfaces that are not properly cleaned will prevent an otherwise excellent paint from giving a good account of itself. Sap spots or knots would mean an unsatisfactory paint job if they were not properly taken care of by first being given a coat of shellac. Then, too, the study of the surfaces may go so far as to include whether or not the surface of the wood is chiefly summer or spring wood, for it has been found that paint finds a firmer anchorage on the latter than on the former, and this fact may be a factor in the selection of the wood to be painted.

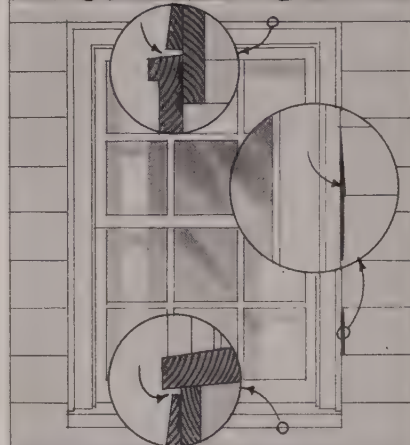
3—USES OF PAINT

Paint may be used to protect, preserve, and beautify. As the architect will be the one who will be held responsible, he must be careful to weigh these factors in selecting the right paint. If it is to be used on a radiator it should be a thin oil paint instead of an aluminum or bronze covering, because tests have shown that these do not allow as much heat to be given off as the oil paints do. Then, too, it is better not to use enamels, as these are very likely to crack or chip, giving a very untidy appearance to the surface. Linseed oil paints should not be used on the interior non-dampproofed bulkheads or where the wall is not furred and is exposed to the weather. To do this will only mean that the paint will soon peel off. And it might be

6A PAINTING WINDOWS



7A SIDING MUST BE TIGHT



RAIN WILL DRIVE INTO ALL CRACKS AT WINDOWS, DOORS, CORNERBOARDS ETC

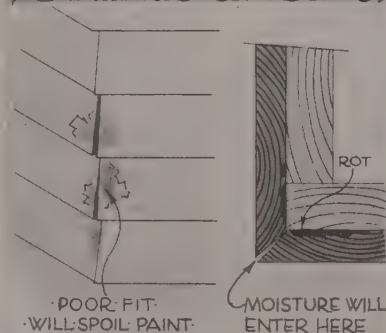
further stated here that if moisture gets in back of a painted surface it is just as detrimental as though the surface were wet or damp when it was painted.

Paints used for hallways, and for similar locations which receive hard usage, should be washable. Many paints used in cheap work today are not washable; in fact, if an attempt were made to wash the walls the paint would be rubbed off.

What might be called special paints, such as aluminum, graphite, silica, and a few others, must be carefully selected and then used for such purposes as their special qualities particularly suit them. Aluminum paints are especially desirable where it is required to cover a very hot surface, or a surface where it is desirable to reflect light and heat. It is amazing how many satisfactory uses this material has been found to serve. It is the only material known at the present time which when put over a "bleeding stain" will allow subsequent painting without the possibility that the latter will be ruined by the stain. When it is desired to put an ordinary paint over asphalt or similar material it is better first to give the asphalt a covering coat of aluminum paint. Then the paint may be applied without much danger of the asphalt bleeding through it.

The finishes of paint are almost as numerous as are paints themselves. In the selection of these the architect must be guided by the uses of the rooms in which the finishes are used. A hall would generally be finished flat, whereas a stippled finish might be specified for the living-rooms of a house. Moreover, stippling would not often be used in a little-travelled hall because of its dust-gathering propensities. In many of these finishes the paint must be thickened to give it the body necessary to do the job. One of these finishes might be mentioned specifically—that which is known in the trade as craftexing; it gives a rough and uneven surface to the wall to which it is applied. This type of finish is not only used in new work but has been extensively used for alterations where levelling off of the plaster would otherwise have been an arduous and expensive task. This finish may have colors applied in a wide variety of effects.

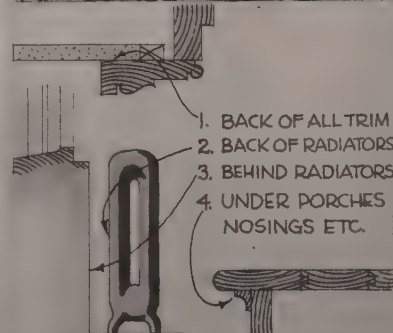
7B MITRED CLAPBOARDS



7C KEEP WOOD OFF GROUND



7D CONCEALED PLACES



4—VARNISHING

The architect should be careful in his description of varnishing and graining. Too often, even in these days of truth in architecture, the specification merely calls for the doors and woodwork "to be grained." The painter more often than not will take advantage of this and do what is called "top graining." This means the body or first coat will be put on and then the top coat will be grained, and that is all the work that will be done. It is self-evident that this work will not last long and will probably be very disappointing as compared with a finish in which the effect desired is secured in the undercoat and then protected by a final coat of varnish. It is well to call for rubbing down each coat according to the finish desired. When varnishing, precautions should be taken to see that the windows are all closed and there is no dust present.

5—CALCIMINING

Calcimine is generally made up with cold or hot water, and both types are practically the same. The delicate tints that it is possible to obtain with this material has given it use a decided impetus lately. Whitewashing is an item which is seldom done properly. The painter too often subtlets this work to an unskilled handyman, with the result that the mixing of the whitewashing and the final results are not entirely satisfactory. If this work must be well done to carry out the desired decorative scheme, it would be well if the architect specified the government formula for whitewashing, and then insisted that it be mixed according to these directions. The niceties of this formula (which can be obtained from the Government Printing Bureau) offer a job of whitewashing which will last a long time and present a creditable ap-

pearance, instead of one that may wash away in the first storm.

6—PUTTY

Putty may seem an unimportant item, yet a painting job otherwise good is often spoiled by poor or cheap putty. Only that putty should be used which is made with white lead. The specification should require that the woodwork be primed before any puttying is done. Should the puttying be done on the raw wood the oil in the putty will be absorbed, thus leaving the putty dry and very likely to fall out. Another item that is worth taking into consideration is the material used on the sides of the window casing where the window rails slide. Most architects prefer to have this treated with beeswax or hot mutton tallow, so that the wood may be non-absorptive and at the same time furnish a smooth slide for the window (Fig. 6A).

7—WORKMANSHIP

It has been said that cleanliness is next to godliness. In painting cleanliness is next to success. Particularly in woodwork must the surfaces be well sandpapered and spotlessly clean. The wood must, of course, be dry not only on the surface but throughout. The wood should be given as much oil as it can take in order that the pigment will not dry upon the surface due to the wood's rapid absorption. The siding must be tight around the doors and windows so that no moisture will work its way in behind the paint (Fig. 7A). The siding must be tight against the corner boards also, and if mitered siding is used the miters must be tight (Fig. 7B). The wood should not be allowed to come in contact with the ground at any point because if it does it will absorb water by capillary attraction and the result will be rotted wood no

matter how good the paint. Where there are enclosures, such as those beneath porches, they should be set upon properly drained masonry work (Fig. 7C).

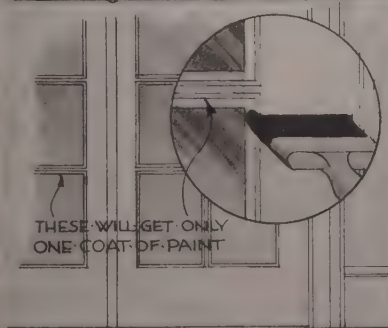
Paint on interior woodwork should be allowed to dry slowly—not, as is sometimes the case in winter work, by having excessive heat applied in the room. This will result in checking and cracking of the paint.

Where plaster is to be painted it is well not to do it until the plaster is at least one year old, otherwise it should be treated for alkali or "hot spots." Of course, it is more desirable to let the plaster stand a while if possible. The desire to get paint on new plaster work too quickly results in many failures. Likewise, on non-weathered brick work or cement work, it is very doubtful in many cases whether a linseed-oil paint will stay on unless the surface is first treated with a neutralizing solution.

Painting on metal surfaces requires particular attention. Ordinary iron surfaces should be thoroughly cleaned with carbon tetrachloride to remove all grease and foreign matter. On galvanized iron, if a primer which the manufacturers specifically recommend is not used, then the galvanizing should first be treated with a solution to render it fit to receive the paint. A copper acetate is often used for this purpose to slightly roughen the surfaces, but it must be thoroughly washed off with clean water and the surface allowed to dry before being painted. The under side of tin should be painted, so that any condensate from the air will not cause rust.

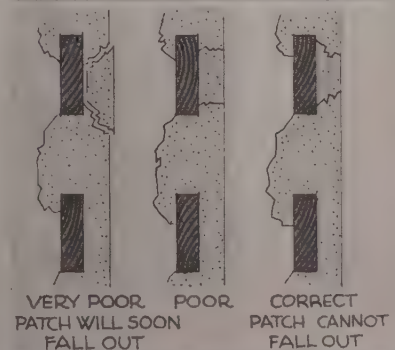
The application of the first coat of paint on any surface is really the vital one. On plaster work it is particularly necessary that the prime coat or sizing be a good one. As the mechanics are very likely to skip the concealed work in favor of that which is exposed, it is highly impor-

7-E FRENCH DOORS, ETC.



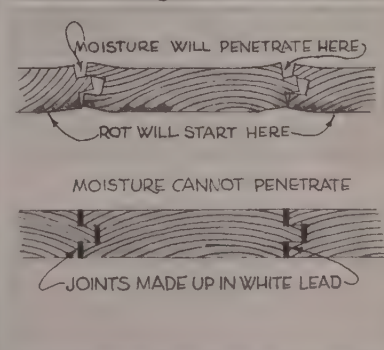
PAINTER MAY USE LARGE BRUSH ON 1ST COATS, "OVERLOOKING" THE MUNTINS

8-A PATCHING PLASTER WALLS



PLASTER PATCHES SHOULD BE SHAPED TO LOCK IN PLACE LIKE TOOTH FILLINGS

8-B PORCH FLOORING



PAINT WILL NOT SAVE A PORCH FLOOR IF WATER CAN SOAK IN THROUGH CRACKS

tant that it be made clear in the specification just what concealed work is to be painted, such as the back of all trim, the back of radiators, the spaces in back of the radiators, etc. (Fig. 7D). The painter should also be cautioned about the removal and resetting of the radiators. Where it is not specifically pointed out where they must do it, few painters will "cut in" each coat on the muntins of French doors or divided sash (Fig. 7E). What generally happens is that the painter will "cut in" only the final coat. The raw wood absorbs the oils of the enamel and as soon as there is any condensate on the windows, it runs on the muntins and soon causes the enamel to crack or peel.

It might seem that the brushes used by the painter might be outside the architect's province, but that is not entirely true. To get the best results from the work done the brush should be springy, not flabby. It should be clean and not full of dirt or the paint residue of a previous job. Many architects prefer an oval-shaped brush or a round brush to be used, as such shapes allow more brushing out. The quality of the brush is usually evident by the condition of the ends of the bristles. If it is pure bristle there will be many split ends, generally a good sign. The brushes used for varnish work are generally chisel-shaped, to allow a freer flowing of the varnish or shellac and thus reduce pitting and air bubbles.

8—PAINT REMOVAL

Paint removal is something which most painters are desirous of avoiding. Using removers causes a sorry mess. Burning takes too much elbow grease from the painter's standpoint, but is very satisfactory if properly done. It may be done on plaster as well as on wood or metal. Sandblasting is also a satisfactory

method, but is generally confined to large steel work, such as bridges. Where plaster is cut out for patching, the cut should be V-shaped with the top of the V on the inside of the work so that the patch will not fall out (Fig. 8A). The crack should be wetted before patching so that the new material will adhere.

Very often porches with rotted floor boards are seen. This could very possibly have been avoided if the under side of the porch boards as well as the top had been thoroughly painted. A further precaution is to put the tongue-and-groove boards together with white lead (Fig. 8B).

The success of red lead may depend in a measure on its fineness of the pigment, hence many architects call for this material to be mixed only as used. But the painter is yet to be found who throws out the leftovers of his red lead each night.

It is well for the architect to call for the painter to avoid painting the sash cords of windows. This is very harmful to the cords and is one reason advanced for the use of chains.

All floors should be covered immediately after they have been finished so that they will not be marred by the mechanics. And finally, it is well once again to remind the architect to call for specific colors to be used for the various coats of paint so that the painter will not "forget" one of the coats specified and the architect will be able to check the work more easily.

9—WALL COVERINGS

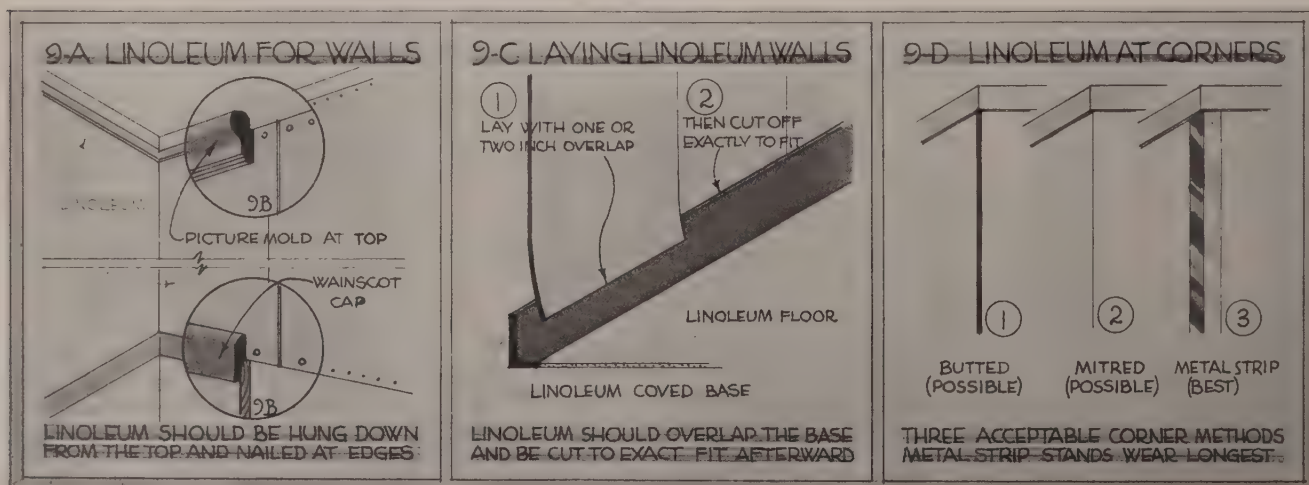
The uses of wall covering offer the architect the opportunity for a variety of finishes. These may run the gamut from burlap to the finest linen canvas. Whichever are used, the architect must be sure that they are properly applied. He should call for the surfaces to be clean and satisfactory to the painter or paper-

hanger who is to apply the material. In the case of printed canvas on walls, the walls are generally primed with linseed-oil paints and then the canvas is mounted in white lead which has been applied to the wall. This method is expensive, but will last indefinitely.

There is on the market today a thin wood veneer mounted on canvas, which when applied to the plaster wall makes for effects of great variety and interest.

Linoleum for walls has become popular, and helps the architect solve many of his wall problems. The architect should closely follow the manufacturers' directions in his specification for the application of this material. This will generally call for the wall to be smooth, and free of alkalis and other harmful substances. The adhesives called for by the manufacturer should be used.

The linoleum should always be allowed to lay out flat for a day or two before being hung. Then it should be hung from the top and if possible fastened along the edges by small nails or beads (Fig. 9A). The edges are concealed by a wainscoting cap or picture mold—the latter the better (Fig. 9B). The linoleum should overlap the base an inch or two so that it may be cut off to fit the base exactly (Fig. 9C). Incidentally the base may also be of linoleum. Stock widths of linoleum may be conveniently used if a horizontal design is desired. Corners at exterior angles may be of butted or mitered linoleum, but it is more desirable to have a metal corner used as it is unfair to expect a soft material of this sort to withstand the savage bumps corners often receive (Fig. 9D). Cooperation with the manufacturers of linoleum wall coverings will well repay the architect in the added possibilities and effects which he can develop from this material.



NUMBER 102 IN A SERIES OF COLLECTIONS OF PHOTOGRAPHS
ILLUSTRATING VARIOUS MINOR ARCHITECTURAL DETAILS

ARCHITECTURE'S PORTFOLIO OF DORMER WINDOWS

*Subjects of previous portfolios are listed below
at left and right of page*

❖ 1926
DORMER WINDOWS
SHUTTERS AND BLINDS

❖ 1927
ENGLISH PANELLING
GEORGIAN STAIRWAYS
STONE MASONRY TEXTURES
ENGLISH CHIMNEYS
FANLIGHTS AND OVERDOORS
TEXTURES OF BRICKWORK
IRON RAILINGS
DOOR HARDWARE
PALLADIAN MOTIVES
GABLE ENDS
COLONIAL TOP-RAILINGS
CIRCULAR AND OVAL WINDOWS

❖ 1928
BUILT-IN BOOKCASES
CHIMNEY TOPS
DOOR HOODS
BAY WINDOWS
CUPOLAS
GARDEN GATES
STAIR ENDS
BALCONIES
GARDEN WALLS
ARCADES
PLASTER CEILINGS
CORNICES OF WOOD

❖ 1929
DOORWAY LIGHTING
ENGLISH FIREPLACES
GATE-POST TOPS
GARDEN STEPS
RAIN LEADER HEADS
GARDEN POOLS
QUOINS
INTERIOR PAVING
BELT COURSES
KEYSTONES
AIDS TO FENESTRATION
BALUSTRADES

❖ 1930
SPANDRELS
CHANCEL FURNITURE
BUSINESS BUILDING ENTRANCES
GARDEN SHELTERS
ELEVATOR DOORS
ENTRANCE PORCHES
PATIOS
TREILLAGE
FLAGPOLE HOLDERS

❖ 1930
CASEMENT WINDOWS
FENCES OF WOOD
GOTHIC DOORWAYS



*Below are the subjects of
forthcoming Portfolios*

Entrance Seats

MAY

Overdoors, Interior

JUNE

Brick Cornices

JULY

Signs

AUGUST

Chimney Offsets

SEPTEMBER

Window Heads

(EXTERIOR, ARCHED)

OCTOBER

*Photographs showing interesting
examples under any of these head-
ings will be welcomed by the Edi-
tor, though it should be noted that
these respective issues are made up
about six weeks in advance of
publication date.*

❖ 1931
BANKING-ROOM CHECK DESKS
SECOND-STORY PORCHES
TOWER CLOCKS
ALTARS
GARAGE DOORS
MAIL-CHUTE BOXES
WEATHER-VANES
BANK ENTRANCES
URNES
WINDOW GRILLES
CHINA CUPBOARDS
PARAPETS

❖ 1932
RADIATOR ENCLOSURES
INTERIOR CLOCKS
OUTSIDE STAIRWAYS
LEADED GLASS MEDALLIONS
EXTERIOR DOORS OF WOOD
METAL FENCES
HANGING SIGNS
WOOD CEILINGS
MARQUISES
WALL SHEATHING
FRENCH STONEMWORK
OVER-MANTEL TREATMENTS

❖ 1933
BANK SCREENS
INTERIOR DOORS
METAL STAIR RAILINGS
VERANDAS
THE EAGLE IN SCULPTURE
EAVES RETURNS ON MASONRY
GABLES
EXTERIOR LETTERING
ENTRANCE DRIVEWAYS
CORBELS
PEW ENDS
GOTHIC NICHES
CURTAIN TREATMENT AT
WINDOWS

❖ 1934
EXTERIOR PLASTERWORK
CHURCH DOORS
FOUNTAINS
MODERN ORNAMENT
RUSTICATION
ORGAN CASES
GARDEN FURNITURE
WINDOW HEADS, EXTERIOR
SPIRES
BUSINESS BUILDING LOBBIES
ROOF TRUSSES
MODERN LIGHTING FIXTURES
❖ 1935
CIRCULAR WINDOWS,
GOTHIC AND ROMANESQUE
TILE ROOFS
MOLDED BRICK



*Gunston Hall,
Gunston Manor, Va.*



*Jersey City, N.J.
Greville Rickard*

*Old Work
New Orleans, La.*

*Pelham, N.Y.
Pliny Rogers*





*Scarsdale, N. Y.
Electus D. Litchfield*



*Scarsdale, N. Y.
Electus D. Litchfield*

*Brookville, N. Y.
James W. O'Connor*

*Lake George, N. Y.
Edward S. Hewitt*





*Fieldston, N. Y.
Dwight James Baum*



*Wheatley Hills, N. Y.
Office of John Russell Pope*



*Westbury, N. Y.
Office of John Russell Pope*

*Baltimore, Md.
Palmer & Lamdin*





*Greenwich, Conn.
Electus D. Litchfield*



*Baltimore, Md.
Palmer & Lamdin*



*Brookville, N. Y.
Bottomley, Wagner & White*

*Teaneck Manor, N. J.
Frederick T. Warner*





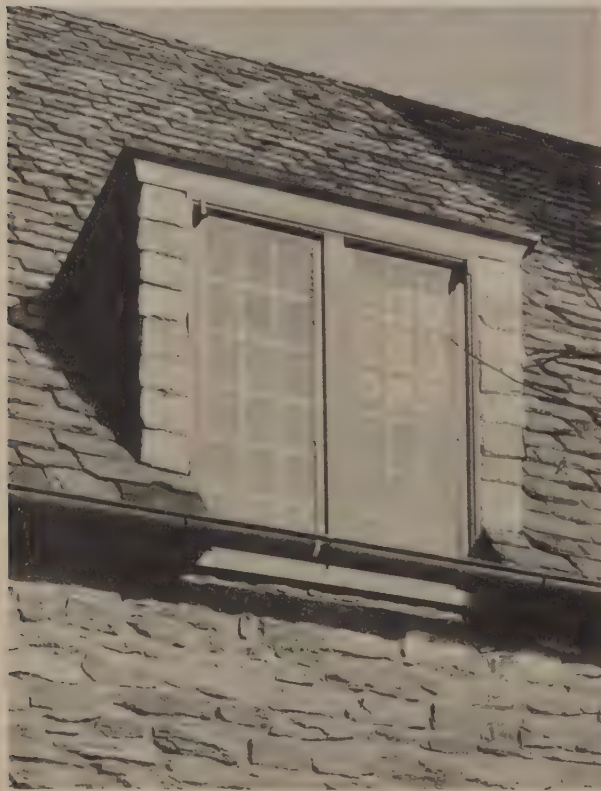
*Bronxville, N. Y.
Lewis Bowman*



*New Canaan, Conn.
Frank J. Forster*

*Bedford, N. Y.
Waldron Faulkner*

*Wallingford, Pa.
Davis, Dunlap & Barney*





*South Orange, N. J.
Lawrence C. Licht*



*Newport, R. I.
Delano & Aldrich*

*Greenwich, Conn.
Greville Rickard*

*Greenwich, Conn.
Frank J. Forster; R. A. Gallimore*





*Morristown, N. J.
Greville Rickard*



*Grosse Pointe, Mich.
Alvin E. Harley*



*Baltimore, Md.
Carrère & Hastings*

*Atlanta, Ga.
Hentz, Adler & Shutze*





*Kernewood
Baltimore, Md.*



*Wheatley Hills, N. Y.
Office of John Russell Pope*



*Portland, Ore.
Herman Brookman*

*Tarboro, N. C.
Dwight James Baum*





*Atlanta, Ga.
Hentz, Adler & Shutze*



*Huntington, N. Y.
Delano & Aldrich*

*Greenwich, Conn.
Delano & Aldrich*

*Mount Pleasant Mansion (1761)
Philadelphia, Pa.*





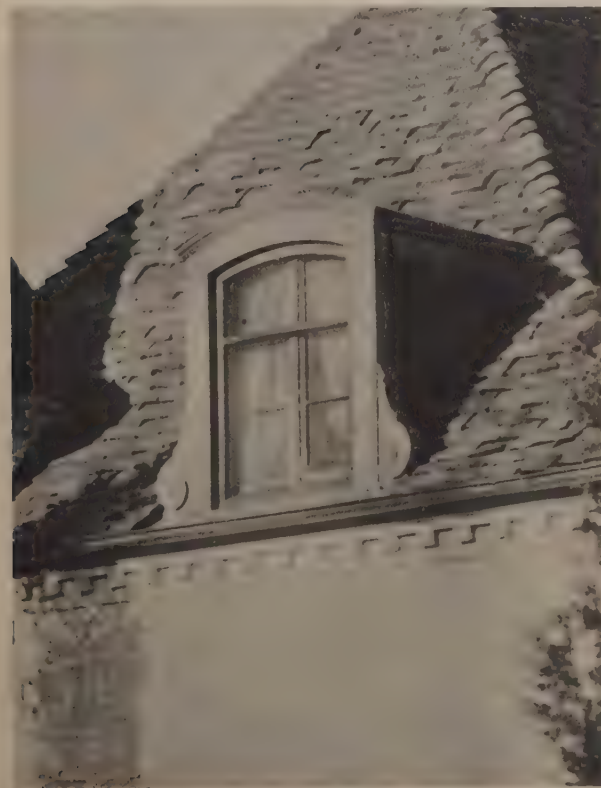
*Winnetka, Ill.
Huszagh & Hill*



*Portsmouth, R. I.
Office of John Russell Pope*

*Brookville, N. Y.
J. Bradley Delehanty*

*Newark, N. J.
Guilbert & Betelle*





*Glen Ridge, N. J.
Davis, McGrath & Kiessling*



*Newport, R. I.
Office of John Russell Pope*



*Hackensack, N. J.
Wesley S. Bessell*

*Princeton, N. J.
Charles Z. Klauder*





*Greenwich, Conn.
Greville Rickard*



*Larchmont, N. Y.
Office of John Russell Pope*



*Forest Hills, N. Y.
Donald Mayer*

*Princeton, N. J.
Charles Z. Klauder*





*Glen Head, N. Y.
Roger H. Bullard*



*Bruges
Belgium*

*Annisquam, Mass.
Rayne Adams*

*Spring Hill, Ala.
George B. Rogers*





*Maison du Pelican
Bruges, Belgium*



*Bronxville, N. Y.
Waldron Faulkner*

*Glen Head, N. Y.
Frederic Soldwedel*

*Gloucester, Mass.
Henry Sleeper*





*Monikendam
Holland*



*Enkhuizen
Holland*



The Pig Market

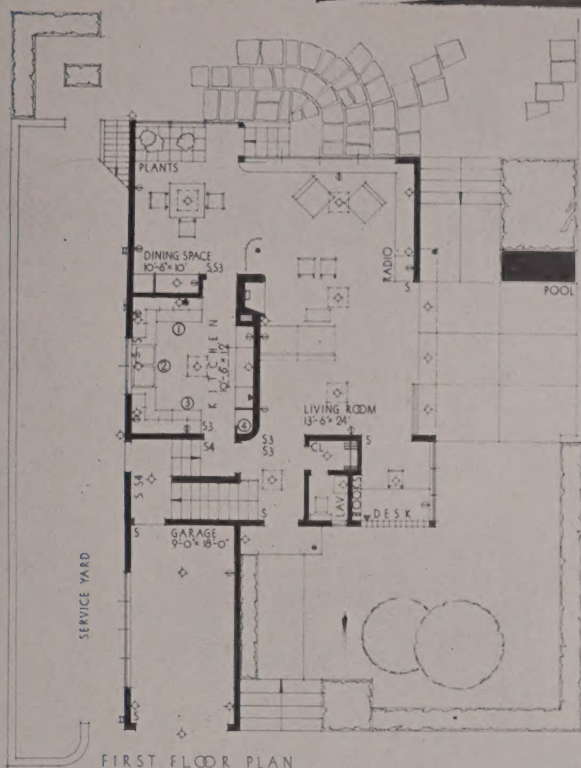
Workum, Holland

*Greenwich, Conn.
Greville Rickard*

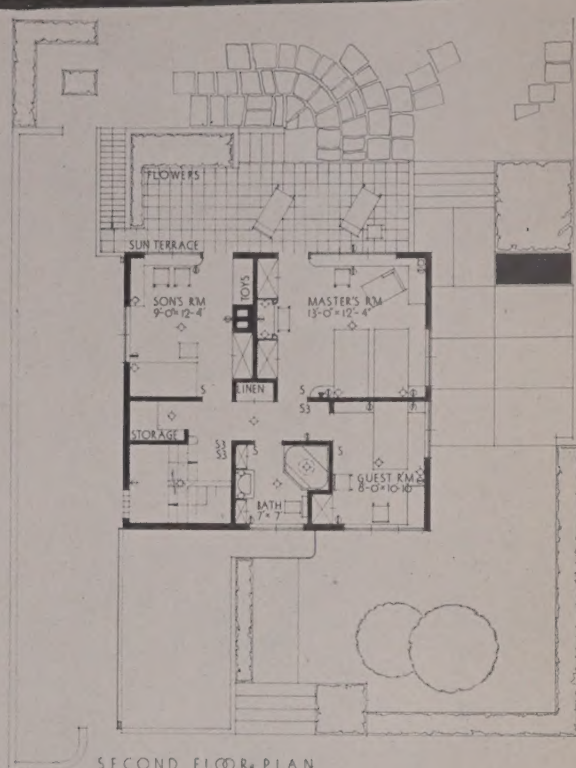
*Norwalk, Conn.
James M. Burgess*



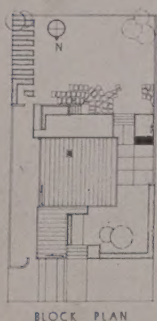
CLASS A



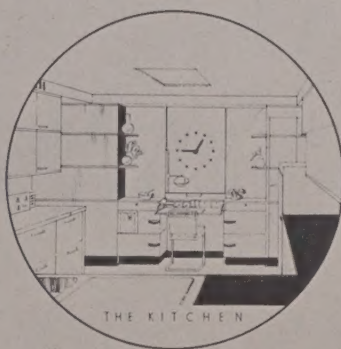
FIRST FLOOR PLAN



SECOND FLOOR PLAN

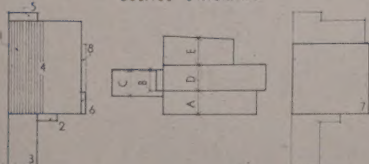


BLOCK PLAN



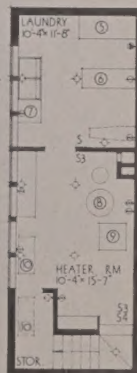
THE KITCHEN

CUBAGE DIAGRAMS



CUBAGE TABULATION					
DIA. NO.	TMS. DEM.	L&W. DEM.	HEIGHT	CUBAGE	REMARKS
1	32'-6"	11'-8"	A-8'-6"	3221.07	BASEMENT
2	2'-0"	7'-0"	B-7'-6"	26.25	ENTRY VOL. +4
3	18'-0"	10'-0"	C-9'-6"	1710.00	GARAGE
4	32'-6"	20'-6"	D-9'-0"	7458.75	FIRST FLOOR
5	3'-0"	10'-0"	D-9'-0"	270.00	"
6	8'-0"	1'-8"	D-9'-0"	108.00	"
7	24'-6"	27'-0"	E-9'-6"	6284.25	SECOND FLOOR
8				92.81	PART OF VOL. -4
VOL. 6' BELOW WALL - LOWEST FINISHED FL.				525.37	
				19696.50	TOTAL CUBAGE

GENERAL ELECTRIC



BASEMENT FLOOR PLAN

G.E. EQUIPMENT SHOWN ON THE FLOOR PLANS

1. IMPERIAL RANGE
2. DISHWASHER
3. REFRIGERATOR
4. CLEANER
5. DRYER
6. PLATINUM IRONER
7. WASHER
8. OIL FURNACE
9. AIR CONDITIONER
10. WORKSHOP

CLASS A

FIRST PRIZE IN CLASS A

STEPHEN J. ALLING,
NEW YORK CITY.

SECOND PRIZE IN CLASS A R. H. BURKHARD, R. C. HOYT and A. MESSINA, NEW YORK CITY.

THIRD PRIZE IN CLASS A VERNER WALTER JOHNSON, NEW YORK CITY, and
PHIL BIRNBAUM, FAR ROCKAWAY, N. Y.

HONORABLE MENTIONS IN CLASS A

Geoffery N. Lawford, New York City

Jonas Pendlebury, Scarsdale, N. Y.

nneth Kassler, Princeton, N. J.

H. Lee Smith, Toledo, Ohio

Frederick M. Moss, Washington, D. C.

Paul Schweikher and Theo. Warren Lamb, Chicago, Ill.

Roy E. Nelson and Lester E. Balstad, East Cleveland, Ohio

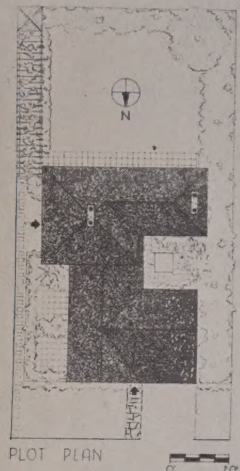
Phillip D. McFarland, Seattle, Wash.

Constantin A. Pertzoff, Boston, Mass.

Walter H. Gruber, Bronx, N. Y.

NORTH VIEW

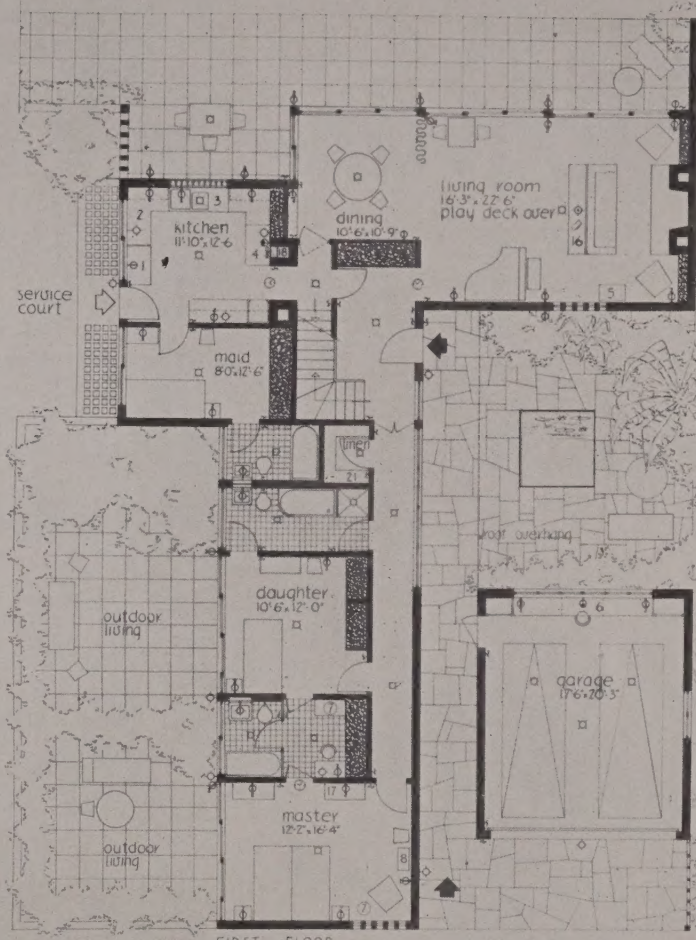
SOUTH VIEW



- KEY TO GE EQUIPMENT:
- 1 - refrigerator - KF-12
 - 2 - cabinets
 - 3 - dishwasher model-D
 - 4 - floor cabinet type
 - 5 - range - G12
 - 6 - radio - M125
 - 7 - GE work bench
 - 8 - sunlamps
 - 9 - radio - M167
 - 10 - hot plate
 - 11 - dryer
 - 12 - washer
 - 13 - oil furnace
 - 14 - air conditioner & cooler
 - 15 - condensing unit
 - 16 - fan model 44x491
 - 17 - fan model 55x165
 - 18 - fan model 51x995
 - 19 - clocks - marked @
 - 20 - cleaners - AV-4 - AV-2



storage



CUBAGE:

d	c	
a	b	
e	f	
k		

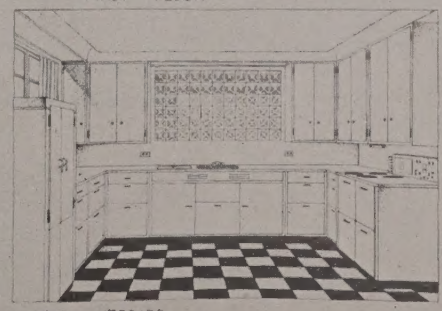
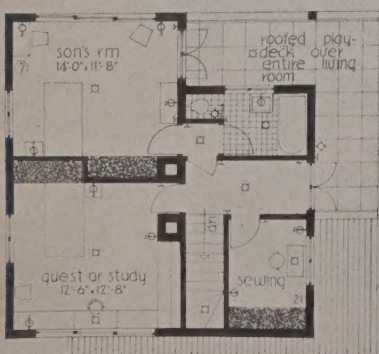
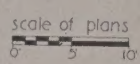
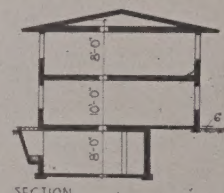
$d - 21\frac{1}{2} \times 26\frac{1}{2} \times 9 = 5129$
 $e - 17\frac{1}{2} \times 75\frac{1}{2} \times 10 = 4156$
 $c - 6\frac{1}{2} \times 11\frac{1}{2} \times 10 = 764$
 $a - 6\frac{1}{2} \times 14\frac{1}{2} \times 10 = 960$
 $f - 17\frac{1}{2} \times 44\frac{1}{2} \times 10\frac{1}{2} = 8200$
 $k - 27 \times 18\frac{1}{2} \times 10\frac{1}{2} = 4400$

h	g
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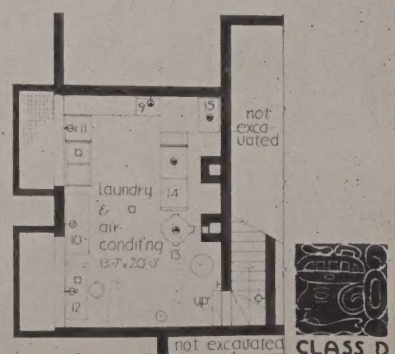
$h - 26\frac{1}{2} \times 21\frac{1}{2} \times 10 = 5700$
 $g - 6\frac{1}{2} \times 15\frac{1}{2} \times 10 = 1070$
 $q - 17\frac{1}{2} \times 23\frac{1}{2} \times 10 \times 4 = 1040$
 $6\frac{1}{2} \times 11 \times 10 \times 4 = 188$

j

$j - 21\frac{1}{2} \times 15\frac{1}{2} \times 8 = 2680$
 $4 \times 8 \times 8 = 256$
total - 34466



GENERAL ELECTRIC



GRAND PRIZE AND FIRST PRIZE IN CLASS D

PAUL SCHWEIKHER and
THEO. W. LAMB, CHICAGO, ILL.

SECOND PRIZE IN CLASS D

RICHARD J. NEUTRA, LOS ANGELES, CALIF.

THIRD PRIZE IN CLASS D

JOHN DONALD TUTTLE, NEW YORK CITY

HONORABLE MENTIONS IN CLASS D

W. D. Lamdin, Baltimore, Md.

Howard A. Topp and Malcolm P. Cameron, Los Angeles, Calif.

John T. Grisdale, Philadelphia, Pa.

Harvey Stevenson, New York City

George Palm, Jr., Cleveland, Ohio

H. T. Lindeberg and Daniel Neilinger, New York City

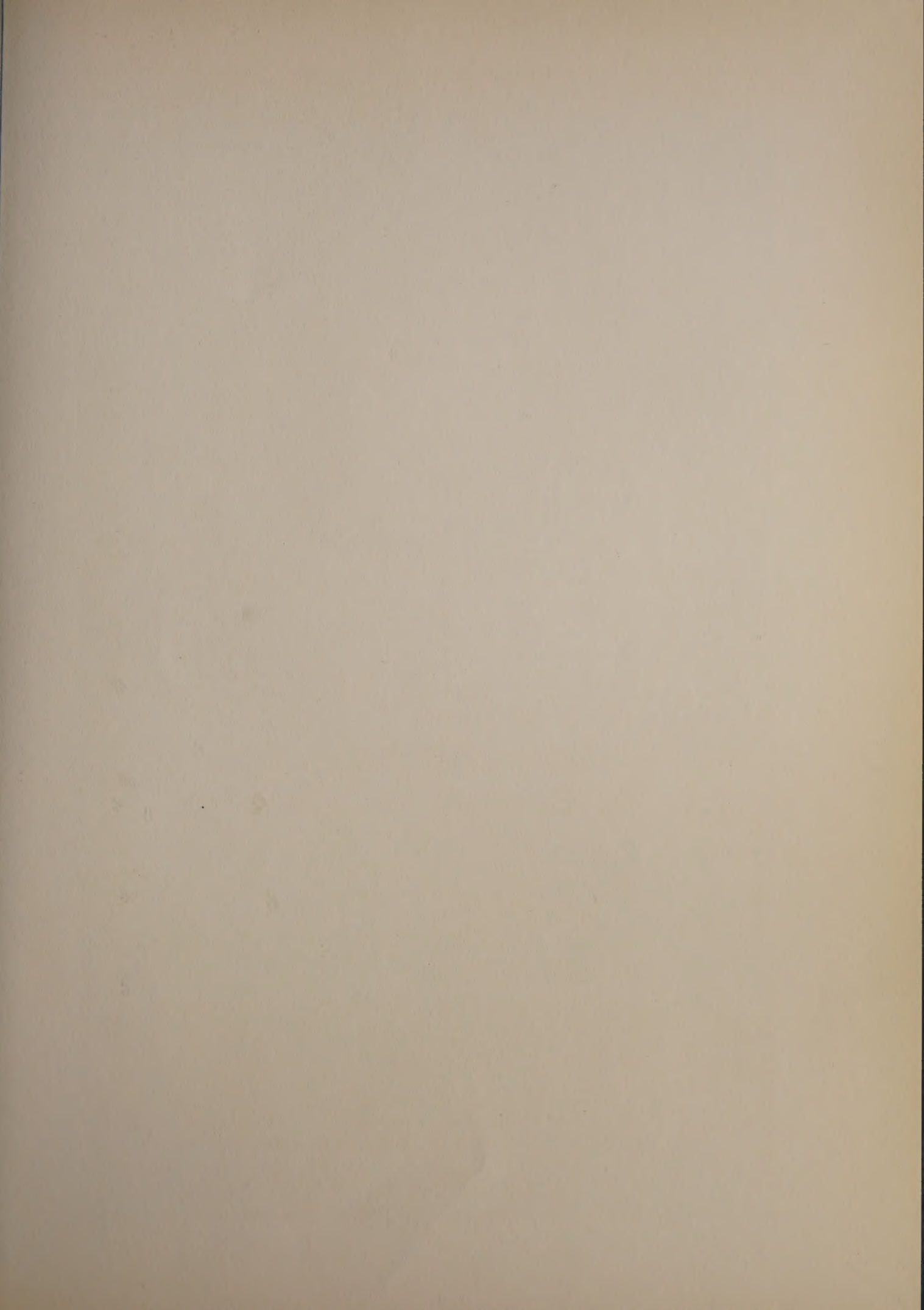
W. K. Oltar-Jevsky and N. T. Montgomery, New York City

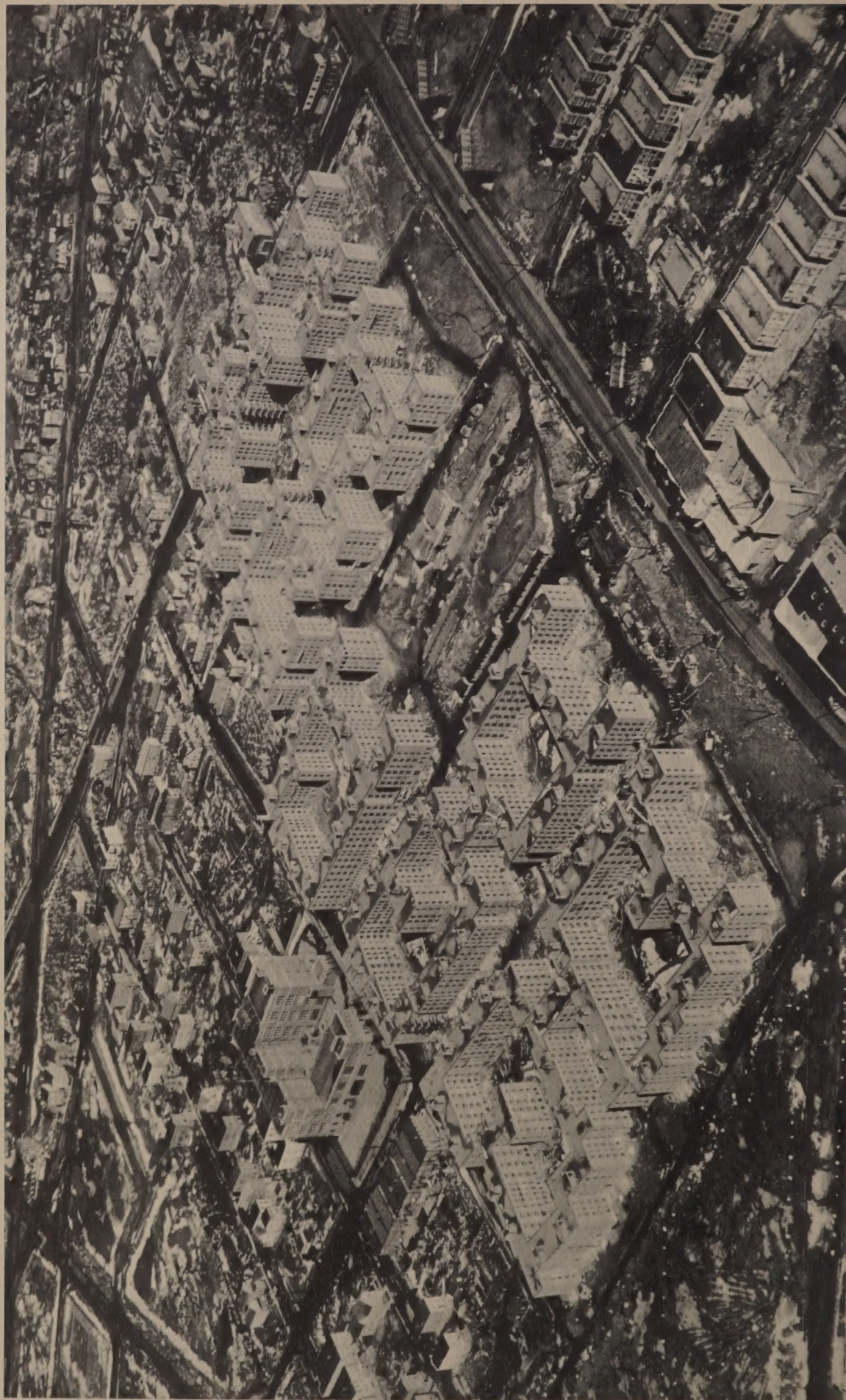
Jason S. Trespel, New York City

Cecil Claire Briggs, New York City

Walter L. Moody, Los Angeles, Calif.

AWARDS IN THE GENERAL ELECTRIC COMPANY HOME ELECTRIC COMPETITION





McLaughlin Aerial Surveys

◀ ARCHITECTURE ▶

MAY, 1935

HILLSIDE FROM THE AIR
February 16, 1935